TENNESSEE SCHOLAR SENIOR PROJECT

Frances Coughlin
Heather Housley

"QUALITY MANAGEMENT IN MARKETING"

A Study of How the Quality Movement Has Affected the Marketing Function Within Four U.S. Companies

A

The University of Tennessee, Knoxville

July, 1992

Table of Contents

Introduction

Individual Responsibilities

I. PHILIPS CONSUMER ELECTRONICS
   A. Overview
   B. Transcripts
   C. Supporting Material

II. HOSPITAL CORPORATION OF AMERICA
   A. Overview
   B. Transcripts
   C. Supporting Material

III. NORTHERN TELECOM INCORPORATED
   A. Overview
   B. Transcripts
   C. Supporting Material

IV. ANDREW JERGENS CORPORATION
   A. Overview
   B. Transcripts
   C. Supporting Material

V. CONCLUSION
   A. Summary Chart
   B. Differences and Similarities
   C. Conclusions
   D. Epilogue

INTRODUCTION

The following information as well as a prepared list of questions was sent to each marketing and quality executive before their interview.

> The Tennessee Scholars Program is a program created to attract students who excel both academically and extracurricularly to the University of Tennessee at Knoxville. As members chosen for the program, the scholars receive full four year scholarships, priority in class enrollment, and the guidance of a selected faculty member. Most importantly the scholars have the opportunity to meet weekly and discuss contemporary and controversial topics.
>
> As part of the requirement for participation in the Scholars Program, each scholar, with the supervision of his or her mentor, designs a project involving their field of study. With the help of Dr. William B. Locander, we have selected the emerging issue of quality management in the marketing function. We plan to interview both marketing and quality officers from a number of diverse companies in order to elicit their views of quality and how quality is integrated in their company and their marketing function.
>
> Through this project, we hope to gain a better understanding not only of the relationship between marketing and quality but also how the marketing concepts we have learned through our college experiences are applied in the everyday business world.

With that statement we began our journey through quality management in marketing. Our theory was that the marketing departments of many American companies were reluctant to accept and participate in quality programs. Because marketing is based on customer service, many marketing departments insisted that they have always promoted serving the customer in a quality way. Therefore, marketing departments resented being told by executives that they should begin applying the quality approach to their work, and the marketing departments resisted the company's efforts to become quality oriented.

In order to test this theory we decided to interview executives from four different companies: Philips Consumer Electronics, Northern Telecom Limited, Hospital Corporation of America, and the Andrew Jergens Corporation. At Philips we talked with Mr. Randy Mitchell, Vice President of Quality, and Mr. James Newbrough, Senior Vice President of Marketing. The HCA executives we interviewed were Mr. David Buchanan, Director of Quality Policy at HCA, and Mr. Sean Keyser, Director of Marketing and Planning at Gulf Coast Hospital, an HCA hospital. We also talked with Mr. Jack Reynolds, Vice President of Quality, and Mr. Mark Henley, Director of Marketing, both of Northern Telecom. Finally, at Andrew Jergens we interviewed Mrs. Jane Barnett, Vice President of Corporate Planning, and Mr. Rio Kobayashi, Assistant Product Manager. Each executive was asked the same set of questions, which can be found on the next page.

Through interviews with marketing and quality officers, we hoped to prove this unfortunate paradox existed within companies struggling to survive in the age of quality management.

PROJECT QUESTIONS

Personal
- Name
- Title
- Years with company
- Prior Positions

Definitions
- What is your company's definition of quality?
  Value?
  Customer satisfaction?
- Do definitions of quality differ from one department to another within the company?
- How is the quality effort organized in your company?

Quality Program
- What type of quality program does your company have?
- How long has it been implemented?
- What were the short and long term goals for the program?
  Have they been achieved?
- What kind of improvements have been made through the quality program?
- How was the program created?
  Was it through the company or a third person? Reason?
  Were models used? If so, which ones?
- What was the reaction to the program?
  Has there been a change in attitude? What?
- What is the role of the individual worker in the quality program?
- What has been the effect of the quality program on the culture of the company?
- Is the company's structural organization a help or hindrance to the program's implementation?

Departmental
- For each functional area I name tell me about the impact of the quality program:
  Manufacturing
  Finance
  Accounting
  Marketing
  Logistics
  Personnel
- What value does the marketing department create?
- Where is the marketing function headed in the future?
  Where should it be?

Measurement
- What are the measures the company uses for quality?
  Are these the same for the marketing department?

INDIVIDUAL RESPONSIBILITIES

Frances Coughlin:

Scheduled interviews

Created rough draft of questions

Wrote follow-up letters

Heather Housley:

Transcribed interviews

Typed project

Organized presentation

Shared:

Interviewing executives

Writing project

I. PHILIPS CONSUMER ELECTRONICS

Overview

Like many companies, Philips Consumer Electronics had trouble starting and maintaining its quality program which Philips calls the Quality Process. During the mid-eighties when quality programs became more and more vogue, the Einholden Philips corporate headquarters in Holland urged its divisions to adopt this approach. Although the corporate office handed down some quality guidelines, Philips Consumer Electronics was free to develop its own quality definition and program. Because "it was a voluntary thing"(Mitchell interview, p. 4), the adoption of the quality approach was an on-again/off-again project until about 1990. (Newbrough interview, p.5)

Philips experienced some pockets of success, but the quality personnel operated at lower levels in the organizational hierarchy. Many Philips executives, including Jack Newbrough, Senior Vice President of Marketing, experienced many of the same difficulties in establishing quality programs at other consumer electronics companies such as RCA and Zenith. In order to coordinate and legitimize the quality efforts at Philips, Newbrough and other ex-RCA employees suggested hiring Randy Mitchell who was then a quality officer at RCA. In January of 1991 Mitchell became Vice President of Quality at Philips, and he began setting up an organized quality process.

The Quality Process at Philips is based on its fundamental definition of quality. Philips defines quality as "total

customer satisfaction," and this definition is reiterated in Philips' slogan: "Our commitment to excellence is total customer satisfaction." This commitment to total customer satisfaction extends not only to Philips' external customers but to its internal customers as well. Philips' definition, therefore, must be and is consistent between departments, and this consistency bonds the departments together. Employees realize that satisfying the customer means "serving the customer the way he wants to be served."(Newbrough, p.1) Yet in order to effectively serve customers who buy their products, employees must first fulfill the needs of their co-workers. If the marketing department does not satisfy the needs of the sales department, how then can the two departments work together to meet the needs of the dealers and end users? The answer lies in the Quality Process and its drive towards continuous improvement.

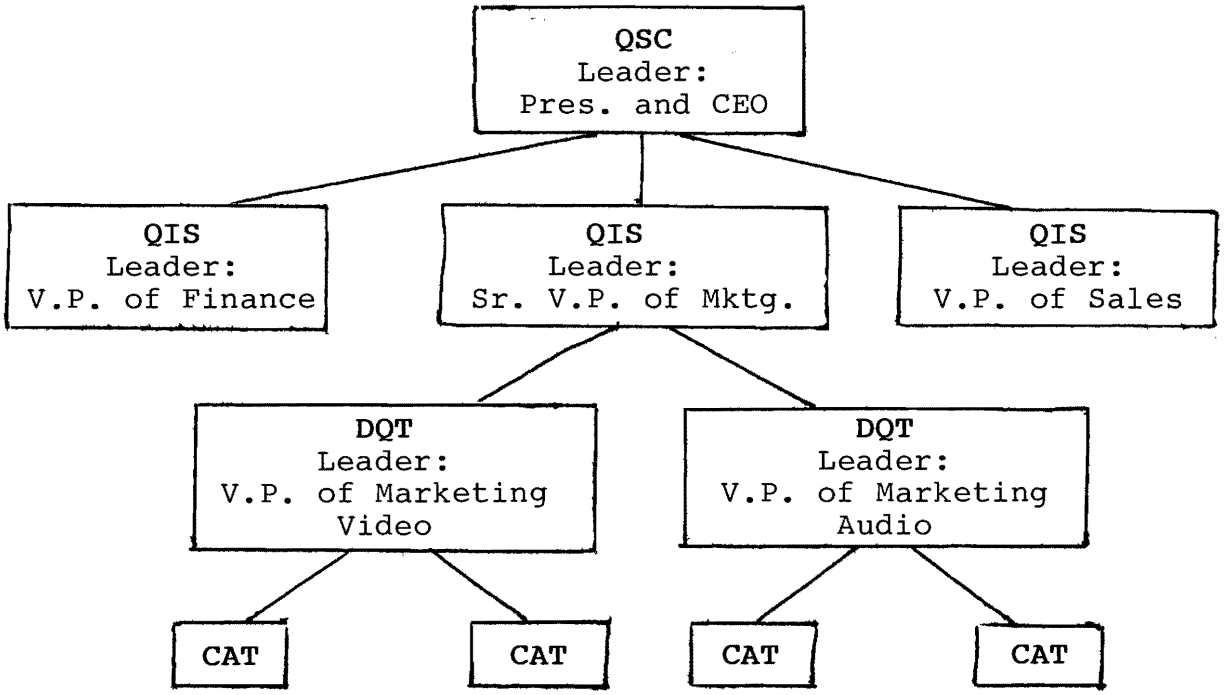
As mentioned previously, Philips refers to its quality effort as a process rather than a program. Quality, Philips believes, should not have a beginning and an end as programs might have. Instead, quality should be a continuous process without limits or ends. Based mostly on the teachings of Demming, the Quality Process is a "very team-oriented"(Mitchell, p.3) system which demands that every employee participate in quality teams. The Process begins at the top with the president and CEO. The president heads the Quality Steering Committee

(QSC) whose members include his direct reports (i.e., Vice President of Quality and Senior Vice President of Marketing). The QSC helps guide and support subordinate quality teams. Next in the chain of command are the Quality Improvement System teams (QIS) which are led by the members of the QSC. The main functions of the QIS teams are to oversee and aid subordinate quality teams and to provide direction through quality mission statements. The members of these QIS teams are the direct reports of each of the Vice Presidents, and these members, in turn, head Department Quality Teams (DQT). DQT's meet to discuss individual or cross-functional problems. In order to solve these problems, the DQT's appoint temporary Corrective Action Teams (CAT) which disband as soon as the problem is solved.

Each of these teams reports its activities to the quality department through Quality Facilitators (QIF). For each team meeting the QIF prepares an agenda, distributes assignments, and publishes the minutes of the meeting. The QIF then sends a report to the quality department. In this way, the Quality Process is organized inter- and intradepartmentally.

When the Quality Process was finally initiated, it met with several negative reactions. Many employees were indifferent to what seemed to be just another program the administration created in response to the quality "fad." Others, especially engineers, were skeptical and openly criticized the Quality Process. Engineers found implementing the Process most difficult

Structure of Philips' Quality Process



*A similar structure to that under marketing also appears underneath the other two QIS teams.

because it required faith and teamwork; engineers are rational scientists who want "to be able to put it to a formula and see the results from it."(Mitchell, p.6) Quality programs, however, do not produce immediate results. Employees, used to the empty promises of new programs, had to dedicate themselves to the Quality Process which would not produce results for at least a year. The worst threat Philips faced then and still faces today is that of the cynics. Like skeptics, cynics questioned and challenged the Quality Process, but cynics are not open in their criticism. They are dangerous not only because they silently undermined the Process but also because their silence kept Process supporters from recognizing them and challenging their opinions.

Through actions and results, however, Philips won over the indifferents and the skeptics. Instead of just handing down a memo, Philips executives rolled up their sleeves and implemented the Quality Process themselves. It was their experience, leadership, and enthusiasm which encouraged other employees also to commit themselves to the Quality Process.

In order to show a daily commitment to quality, every employee proudly wears a "Q" pin. Any awards for quality achievement are displayed prominently on walls and desks. Office doors are kept open so that occupants are readily available to help visitors. Meetings have become more efficient in terms of time management and effective in terms of problem-solving.

Departments, especially marketing, are "headed toward a new type of thinking."(Newbrough, p. 12) The Quality Process has pushed marketing personnel to become totally radical thinkers and to accept any new ideas. In other words, the marketing department is becoming a department of risk takers. As long as the lesson is learned, it is better to take a worthwhile risk and fail then not to risk anything at all. Philips' marketing department is approaching its future with fresh ideas.

Between Mr. Mitchell's and Mr. Newbrough's interviews there were only two major discrepancies. The first discrepancy dealt with the functional area which drives the company. Mitchell said that Philips is an engineering-driven company which depends on the efforts of its engineers to improve and maintain market share. Later in his interview, however, Mitchell emphasized the importance of understanding and relating to customers through marketing. Newbrough, on the other hand, said that Philips is 100% marketing driven. Since the marketing function drives the company, the value it creates for Philips lies in its leadership of the company.

The second and more important discrepancy was that of marketing's acceptance of the Quality Process. While Mr. Mitchell felt that marketing was one of three areas which were slow to embrace the Process, Mr. Newbrough said that marketing accepted the Quality Process as well as any other department. Marketing, Mitchell said, "had a very difficult time

internalizing quality."(Mitchell, p.9) To marketers the Quality Process was a manufacturing and engineering activity which demanded rigid, objective measurements such as the defect rate. Because their work did not produce a visible, tangible product like manufacturing does, marketers could not see how the Quality Process could be applied to marketing. When the marketing function saw that "they have a process in terms of the way they do their job"(Mitchell, p.10), marketing personnel found they could actually flowchart their processes. They began to eliminate unnecessary work and evaluate the quality of their work.

The discrepancies between Mr. Mitchell's and Mr. Newbrough's interviews are perfect examples which support the argument that the marketing function is ironically slow to embrace the efforts of the quality movement. Mr. Mitchell, an objective observer of each department's reaction to the Quality Process, saw the difficulty with which marketing had in terms of applying the Process to its activities. Mr. Newbrough, whose bias is obvious, viewed marketing's resistance as a reaction common to all departments. One thing is certain. The commitment and determination of the Philips executives demonstrates and perpetuates the importance of the Quality Process to the survival of Philips.

Transcripts

Mr. Randy Mitchell
Philips Consumer Electronics
Thursday, March 12, 1992
Interviewed by Frances
Coughlin and Heather Housley

FC: OK, I just want to start off with, like, some questions dealing with personal background stuff. Of course, your name is Randy Mitchell. What's your official title?
RM: Vice President of Quality.
FC: And how long have you been with Philips?
RM: I have been with Philips fifteen months. Prior to that I was with RCA. I was there thirteen years, and before that I was with Zenith seventeen years. So, I have been in consumer electronics for over thirty years.
FC: And were you a quality officer in those companies?
RM: I've been in quality probably twenty-three out of the thirty years. So it's been a career.
HH: What would you say is Phillip's definition of quality?
RM: Well, hopefully you saw it when you came in the lobby.
HH: Yes, we were very impressed.
RM: Our commitment to excellence is total customer satisfaction. It's talked about, in fact I'll go back. When I came here fifteen months ago, what you saw in the lobby was a nice paragraph about what we stand for. The problem with that was that nobody knew what it said. It had all the right words but no one could identify with it so what we did was, we took a hard look at trying to come up with something that was meaningful to describe what our business was but that had better than a ninety percent recall to all of our people. So that's why we came up with a really simple "Our commitment to excellence is total customer satisfaction." It's something that almost every person in this building can identify with. It links excellence with what really is what we're all about and that's total customer satisfaction. We can talk about that a little bit later.
HH: Do you think that the definitions of quality differ from one department to another in the company?
RM: Not within Philips, no. The reason we've adopted this as a corporate statement is to prevent that from happening. What we ask the departments to do is to take that statement and internalize it within their own department. What does that mean to me? What does total customer satisfaction mean to finance? What does total customer satisfaction mean to logistics? What does it mean to manufacturing? OK. Because when you talk about the customer, you have an internal as well as an external customer. We all know the external customer, the people that buy the goods, or in our case, our most immediate customer is the Sam's, the Walmarts, the Targets, the people who we sell the product directly to, OK? But we also have an

internal as well. Our finance group is a supplier to manufacturing. Manufacturing is a customer because they receive inputs and data from them. So each one of our areas has to internalize what that means to them. We can talk about how we go about even internally measuring satisfaction from one department to another. We have taken it down to that level.
FC: Now you said the definition was corporate. Did you mean that it had come down kinda like a trickle down effect from the corporate or was this total customer satisfaction was that something that Philips Comsumer Electronics started on their own.
RM: That's a good question and it does need to be clarified. Our headquarters on Philips, you know, the Philips concern, is in Einholden, Holland. Then we have a North American Philips which is the businesses within the United States, OK. The headquarters for that is in New York. We are Philips Consumer Electronics Company which is a division of the Einholden Philips, so we operate as a separate division, but we are autonomous. We have our own profit and loss statement, so we're pretty well an independent division within the entire concern. The definition that we established was within Philips Consumer Electronics Company. You can go to our lighting division in the United States and they might have another definition of quality, the corporate in Einholden. So it wasn't something that was handed down from Holland to come down from here. We're on our own to establish our own process and our own methodology and things such as that. There's some corporate guidelines and directions, you know, the thrust of where they want to go. But it's up to us to develop the system and the process for how we want to do that.
HH: How is the quality effort organized within Philips?
RM: OK, if you want to talk about, if you talk about Philips we got to talk about Philips Consumer Electronics Company, OK, which is headquartered here in Knoxville. My job and my responsibility is to define the system for our business, OK, which is our administrative functions as well as our manufacturing locations. Our manufacturing locations, we have three of them that are in the east Tennessee area. Our final assembly plant is in Greeneville, Tennessee. We have a plastics plant in Arden, North Carolina, and a woodcabinet plant and a service plant in Jefferson City. Then we also facilities down in Juarez, Mexico, OK. So that is our world in terms of that. My job is to define the quality system, and we looked at several different approaches on how we wanted to do it. We came up and we settled on a approach that was probably 80% Dr. Demming and probably 20% or 10% Juran and maybe 10% Phil Crosby. So we took, basically we're using the teaching of Dr. Demming. Why not go with a winner? He's teaching today what he tried to teach in the United States in 1950. We didn't listen to him in the fifties, so he went to Japan and made them world-class. Now we're listening to him and he's teaching the very same thing here and we're all saying "Wow! Isn't this so great!"

Well, the man hasn't changed. The only thing that's happened to him is that he's gotten older. So, we have developed our internal training and our internal system from his methodology. So, I guess to answer your question further, we have a process defined in terms of, we have a foundation where we lay the infrastructure for the quality system in place and it's very team oriented, team approach, so we do it in that fashion. The president and CEO is the chairman of our quality steering committee. His direct reports which include me are chairmen of what we call quality improvement teams. So we start this team activity at the very highest level of our business. I head up a team for our corporate quality. The chief financial officer heads up a team for finance, OK, which would include his direct reports. And each one of those direct reports head up like a department quality team, so it starts to cascade down through. Then we have second level department quality teams and things such as that. So the purpose of those teams is to focus on how to improve quality within that particular function. Finance people look for ways that they can, maybe, expedite closing the books from five days to three days. What are better ways that they can better serve their customer? We develop indicators, measurements, for each particular function, and they're in a book like this that comes out monthly. You'll look and you'll see that every department has a section in there and we use measurements to measure how well each one of those areas are doing in terms of quality within their own particular function, OK. So everything is geared to a continuous self-improvement. And we put just as much focus upon our administrative functions as we do on our manufacturing plants, because to us that's what total quality management, TQM, is really all about. My organization oversees this whole process. We help the various functions develop the indicators we feel are meaningful to them, how to measure it, we consolidate it into a management report. We discuss it on a monthly basis at the quality steering committee which is the president and CEO and his direct reports. So it's a very top down type activity.

FC: How many employees do you have in the quality department?

RM: My direct reports, I have six direct reports, OK, which includes some product focused people. I have a manager of quality assurance for color televisions and I have a manager of quality assurance for purchase product. I have a manager of quality reliability. I have a direct report that is competitive analysis, where we are constantly bringing in competitive products and gauging and benchmarking where we are versus our competition, and a whole myriad of performance indicators. The total department with people underneath them is today around forty. So we have some technician people under there that are actually doing alot of the reliability evaluation such as that. I also have a direct report that manages the whole quality improvement system. They're responsible for conducting the training, the quality training that we do,

statistical process control, problem solving, things such as this. That person works across virtually every organization in the place.
FC: So what you're saying is, part of your quality program is that each department, does every individual in each department try to comply with the quality, how to improve, how to make things...
RM: Virtually every individual is on a team. It might be a first level team, a second level team, a third level team, that is working on quality improvement at their level. There's obviously some things that they can't get done at their level that they kick up to the next level, but the strength of the process is that... (technical difficulties)
We formally register these teams, so we know who's on them. We know, they have minutes, we get minutes for that so we monitor that they are progressing. If we see that they're stalled or they're not meeting regularly we monitor how frequently that they meet. So we oversee that process, and we insure that at least they are working on it. They really can't go unscathed. In addition, we have cross-functional and what we call corrective action teams or CAT's, cat teams that have a little different definition. They are conditioned and put together for a specific concern or specific problem that might be occurring cross-functionally. That team has a beginning and an end to it. The department quality team is an ongoing continuous thing. The only way it changes is if people leave and new people come on.
FC: And how many levels did you say?
RM: That goes down to probably two levels below me, two levels below the senior staff. So there would be around 115 teams throughout our business.
FC: On three different levels?
RM: Yea, on three different levels.
FC: And how long has this program been implemented?
RM: I'll just nit-pick you a little bit, it's a process.
FC: Process, OK.
RM: We have, well let me just be honest with you, we started it in 1985. We had to jump-start it a couple of times. It started and stopped because at that time it was a voluntary thing. It started again in earnest in 1988. Some pockets of success within certain groups like our service company did very well, our Greeneville manufacturing facility did very well, but it was not an umbrella over our whole business. I was brought on board in January of 1991 to tie it all together. So we have really been driving this from a corporate stand point for about fifteen months.
FC: Are there, even though it is a process, do you still have short term and long term goals?
RM: Yea. The process itself is what I would call an activity based process. There's a lot of teaching, learning, putting an infrastructure in place for the teams to work cascading up to the steering committee. And there's a lot of that activity

that goes on without seeing a lot of successes, OK, but that's a long term foundation that we've put together. We do, we are now in a phase I call like a results-oriented type phase. It's where people can start to see some successes coming in. We use a lot of special, like what we call corrective action teams to put them together for a special problem, drive a solution, measure the data, show through the data that there's improvements taking place, and that's more of a short-term duration. We use the indicators, though, in this book to really say how the process is doing from that standpoint. And then what's happening is that's also translating back into our product quality. Because the basic premise was you can't expect improvements in product quality unless you have the basic infrastructure in place like your policies, your procedures, your processes. A simple thing like having control of your processes, you can't expect to have world class products coming out of that when you have a very haphazard manufacturing process. So we had to put some discipline into the organization through getting that done and that's our whole foundation approach like that. But now we're seeing not only the improvements in our product indicators but we're seeing them in the indicators throughout the business as well. I guess I feel they go hand in hand. You can't have one without the other.

FC: What kind of improvements are you talking about?

RM: Field call rate, for instance, which is our field failure rate, which is the number of failures versus sales. Those have come down dramatically, probably thirty percent within the last year and a half. Internally our line falloff rates, which is the amount of product that comes off of the line for whatever reason. Our end of the line quality measurement, in terms of failure, our outgoing audits of products report. So there's a whole series of measurements that every one of them are showing improvement. That's translating into the marketplace, a situation whereby the color TV industry as a whole has been declining for the last two years. In other words, the industry hasn't made as many TV sets in 1991 as they did in 1990. We're looking at 1992 not being as many color TV sets manufactured as 1991. We're obviously feeling the effects, everyone's feeling the effects of the recession. But yet the Magnavox market share is growing every year. So what it's saying is that we're still growing our business in a recessionary environment which you can't ask for much more than that. So we're taking it away at somebody else's expense which says that we are getting our product at our customers when they want it, how they want it, and in the quantities that they want it. And once you do that, you're going to be very successful. And we measure that in terms of the total customer satisfaction thing. We have three young ladies from UT that we hire in our telemarketing group part-time. It's a good part-time job for them, but they call our top 150 customers on a monthly basis. They talk to the buyer with a questionnaire and we ask how well are we doing in each one of these areas. So we translate that into a

measurement of satisfaction. And we've set a target to improve that this year. We want to get our satisfaction up over 90%. We're not there today.
FC: OK, I'd like to go back. You said the process started roughly in 1985. How did that come about?
RM: I think it was, and I'm dealing only in hearsay now since I wasn't here. There was a thrust out of New York. Quality was becoming vogue. They had identified a approach and were encouraging all of their different divisions to adopt this approach. But, like I said, it was on a voluntary basis and so you can't do quality on a voluntary basis. Just like you can't delegate quality. I can't delegate it to my people. I have to. I have to do it myself.
HH: What has been the reaction of the administration or the individual workers to the process?
RM: Well, there's probably been several reactions. Initially it's Gee! How am I gonna find time to do all this? How am I gonna find time to go through all the training? How am I gonna find time? So there's, any time that you introduce a process like this or anything new it's always met with skepticism. What's in it for me? That's always the big part of it because one of the failures of these processes is that we fail to show the people what it's gonna mean to them in terms of better job security, and such as that. And until you start showing results you're gonna have that. Once you start seeing we're increasing market share now whereas up to two years ago we were flat. Gee, up to two years ago sales were flat and now we're increasing sales. Gee, up to two years ago profits were stagnant and now they're improving. And boy, up to two years ago this is happening, and this is happening. And then you start saying well what do you think changed all that? Maybe, maybe it had something to do with this, see? And, we deal with some very tough people. We're an engineering driven company. I hope I don't step on any toes but engineers are tough. Everything has to be a science. You have to be able to prove it, you know, on paper. And a lot of quality is taken initially on faith, that it is just the right thing to do. They have kind of a left brain right brain mentality and sometimes it doesn't equate to them to take something on faith. They have to be able to put it to a formula and to see the results from it. So we had some pretty tough pockets to overcome because it's just not within them to do that. Interestingly enough, it's not within a lot of the engineers to work together as teams. We find engineers very individualistic. They want to go create something, you know. This is my idea, you know, my patent. So it's even somewhat difficult for them to work in a team environment. So there was a lot of early teeth-gnashing and things like that that just required persistence on our part. Once you get into the results phase, then. We still have skeptics, don't get me wrong. We still have cynics and those are the people who we worry about. They're dangerous to the process because a cynic will never change no matter how hard

you try. But yet, you don't see a cynic. He's not the guy that's out there questioning you and challenging you. That's the skeptic, but you can win him over. The cynic is just very sneaky and very silent but he's down there, right now, today, undermining. So, it's tough. It's getting better. You'll read how this process takes a long time, and it does. Ford Motor Company started their "Quality is Job 1" back in 1980, and they did a survey of their people in 1986 or 1987 and only 65% of their people thought they were really serious about quality. Now they had been engaged in this process for six or seven years. They had 35% of their people that they hadn't won over yet.

FC: Why do you think that there are skeptics and the cynics in the company?

RM: I really don't know. To me it's just a no brainer. I've come to the conclusion long ago that businesses won't survive in the 1990's unless they're quality focused. I just believe that. It's a lot of work. Most people want you to give them a recipe. Here, this will do it. But it's something that requires you to work on every single day because there's always people looking for that chink in the armor. I've got to be very careful in what I say and what I do because there's a lot of people wondering when's he going to falter, or when's he gonna let us know what he really thinks. (Technical difficulties.) ... You know, I think the difficulty is that it just takes work. And it's not something that's task oriented where if I do this work today then I can stop tomorrow. We just have to keep doing it every single day. I think that gets back to why it just hasn't been totally embraced, because it's a lot of effort.

HH: And is every single person that works here, are they all involved in some sort of team?

RM: Uh-huh. The only exception would be like in our manufacturing location we might not get down to every single employee on the assembly line because you get into when are they gonna do it and things like that. But they do have times when they are pulled together as groups for kind of interactive discussions and things like that. But it's not as regimented as what they are in some of the other groups.

FC: Can you tell me about the impact of the quality program on each of the functional areas such as, like the manufacturing area?

RM: Are you looking for something specifically on when you say impact?

FC: Just have they had to go through a lot of changes, like have they had to, this may be way out, but change around the plant? Or have they had to get rid of employees or add more employees?

RM: Well, as we've been putting this process in we've been in a constant state of downsizing our operations. Philips a year, two years ago was not in the best of financial health. We are in a lot better financial health today. But the people

have had to deal with that, all going through this process, and there was some unfortunate linkage that this process was contributing to reduction of employees. So sometimes we have the union not really understanding what was going on. I think the major changes that the people have had, if I could just summarize it, would be that they've learned how to work together. They've learned how to depend on one another. And the thought behind that was that collectively we're a lot smarter than what we are individually. So we've gotten as a company a lot of power out of the team approach to problem solving. The people have gotten used to not only working inside their own cocoon which might be their little department in the factories, but working with other groups within the factories creating an understanding of how these people over here affect these people here and the activity to try to improve that. And also working on the hierarchy between, we'll have teams that have line workers and maybe superintendents on them. When they're on the team, they're really as one. There's really not a barrier to authority there. So that's made a better relationship and communication link top down and bottoms up through the organization. I think that if you ask how it's affected all of the departments then I think it would be the same with the manufacturing people and the administrative field. It's just been a positive effect on learning how to work together.

FC: You said that there are no barriers top down and down top. Are there any type of obstacles cross-functionally as far as the process goes?

RM: Not as far as the process. If there's barriers there, it's barriers that have been there historically in the past that we're trying to break down. The most prevalent was between engineering and manufacturing. Designs would occur in engineering two weeks before production. We joke that they'd throw the chassey over the wall and say "There it is, build it." Now at the very beginning of the development process, when we're virtually starting with a clean sheet of paper trying to conceptionally visualize what the product's gonna look like two years down the road, we'll have engineering, we'll have our product planners there, we'll have our key suppliers in on that part. We're very fortunate here that we have world class suppliers like Motorola that won the Baldridge Award. They probably contribute as much to our success as not, as well as the manufacturing plants. So they're all setting down from day one knowing what's going to be coming down the road, and the whole development process now is done very openly. We view it as a management team periodically through the process, so that when we get to production introduction, there's no surprises. Everybody understands what the product is. They understand the level of quality it looks like it's gonna do because we've made some builds and put them on lifetests and things like that. It's just a lot more open environment. And so that barrier is virtually gone away. Now there's obviously other barriers here that we're trying to just blur out through

this teamwork and working together.
FC: So you feel that the teamwork that the quality has brought on has been kinda...
RM: It's a catalyst.
FC: For the departments to work together.
RM: Sure. Yeah. There's no question.
HH: I just wanted to ask a little bit about the marketing function specifically. First of all, how has the process affected it? Is it just exactly the same as everybody else?
RM: They have a quality improvement team that's headed by the senior vice president of marketing with his direct reports which are usually all vice president of color TV marketing, you know, so it's very high level. Then each one of those vice presidents have their team. They work on who their customers are. Sales, for instance is one of their customers because they develop the pricing and things like that. They have internal surveys to sales, how well are we doing, and things like that. So, we put just as much, and they have measurements and indicators in this book. Let's see. Advertising is a part of that. They have their own specific part of that.
HH: What type of measures do they use?
RM: There's measurements such as pricing accuracy. Unfortunately I can't share them with you, OK. Schedule attainment, advertising deadlines, consumer perception of Magnavox versus the competition, sales forecast accuracy for color television, projection television, things such as that. We have projects meeting deadlines, the way that they measure themselves internally. You notice, see we also have the measurements like in the marketplace, the traditional marketing measurements. These are measurements though, that speak to how well are they doing as an organization. And that's what's in this book. We've got all the measurements that say what's our percentage of sales, market share, and all those sorts of things. What's our average price, average cost per unit, things like that, that we can measure against the competition. But these are directed toward how to improve their activity internally.
HH: Where do you think the marketing function is headed, like into the future? Where do you think they are right now and where should they be?
RM: In terms of quality, or do you mean in terms of...
HH: Quality or overall, whichever.
RM: They have been one of the three areas that's been slow to embrace the process.
FC: What are the other two?
RM: Sales, and human resources.
FC: Do you know why?
RM: They just felt very detached from the quality process initially. They viewed quality as a manufacturing and engineering activity. Had a very difficult time internalizing quality and to their groups. I don't think that's a good use of my time is what you heard. I need to be out selling this

product. Only when it became clear to them that even within sales and marketing they have a process, they have a process in terms of the way they do their job. And part of our quality improvement process is to flowchart and map their process. So we have each group in finance, group in engineering, this is advanced levels in the quality. We've really fought with them in terms of putting the infrastructure in place. But then the next level of this whole process that we've identified is what we call the "map the process" whereby they really flowchart what it is they do. And then they start to look at that in terms of cheaters, things there that's redundant. There's things there that aren't adding value. And there's things there that we're doing just because we did them for the last five to ten years. So then, they started the process of eliminating unnecessary work, and it fit nicely because as I mentioned before, we were in an environment where we were downsizing our business. And so as you have less people, the only way you survive is eliminate work. You don't do the same amount of work with less people. That's ludicrous. If you have less people it forces you to look at the unnecessary non-value-added work. Now they can start to identify that, and they can start to see a part of the process. They were looking at the quality of the work that they were doing. Then they started to see that it then was something that was necessary. Now they view themselves as part of the entire team. Everybody would jump on the bandwagon once the success starts coming in, you know. And you'll the "Hey, I was always with you." But I think it's just traditionally, and I would venture to say that any other business that you talk to that these are going to be areas that are going to be slower to pick up the process. You'll talk to some businesses that I would venture would not be engaged at all in the quality process in their administrative areas. They're strictly manufacturing focus. I think that's answers what you wanted.

HH: Yes, thank you.

FC: Our project is, like, what we hope to prove is that marketing is one of the areas or even the main area where they have been slow to embrace quality, which is what we feel is redundant because they are the ones that say that you should be customer oriented and the only way to be customer oriented is to have quality, and integrate it into the company.

RM: . Yea.

FC: It's kind of ironic.

RM: It is. It's a paradox, isn't it? And you're seeing that very well and your perception's very right. You'll be successful in your paper because you'll be able to prove that. It's just a fact. It is interesting that they're probably the people as close to the end customer. They seem to be more detached from it than the others. We forced a lot of indicators onto this customer satisfaction. We have a service company now that's been rated as number one in consumer electronics now over a lot of the Japanese manufacturers in the United States for the

last couple of years. And it's, they put a lot of effort into the people who come into direct contact with the consumer. Consumer affairs area there, that if there's anything wrong with the product you call directly into that. One measurement is that 98% of the time they have to answer the phone on the second ring. They have to resolve 90% of all the calls on the first contact. That's tough. Those people who answer the phone have to be tremendously empowered to be able to do that. It's all sophisticated computer system whereby you logon the people that call in. These people are empowered that if you need to exchange a set, they'll do it right then because they want to resolve it on the first call. There's nothing that people hate worse than either be put on hold or say "Hey, we'll get back to you" or something like that. All these things have gotten us to a number one position in customer service. We do that for a very simple reason: number one is financially it costs you five to ten times as much money to find a new customer than it does to retain the old ones. If you're in marketing then you'll understand that. The existing customer, all you've got to do is keep him satisfied, and he just keeps coming in and ordering product. But a new one, they have to go out and advertise and make contacts and call, it's very costly. So we can identify that right to the bottom line as far as why it's important for us to do that. We take a lot of pains in terms of our service industry to make sure that if something, God forbid, does go wrong with the product that we manufacture, that we service them very well. And all the statistics, all the market research that you'll ever do will tell you that a person that's had a problem and you service them well, they have greater brand loyalty than a person that never had the problem before. And it is just so true. I can think about it in my everyday work, and everyone has had trouble with an automobile. You say if something happened to it, you can kinda except and maybe even forgive the manufacturer for that defect if that dealer says I'll give you a loaner. We'll come right out and get you. We'll take you to work or to school or something like that. We'll have it to you this afternoon, no cost to you, by the way. We'll have it back to you and you're sitting there saying "Wow. I'll never get off of this brand." Til they dissatisfy you. I'm gonna talk a little bit too about why total customer satisfaction, if I can. I told you earlier on that I would. One of the failures that people make today in terms of quality is that they try to make a decision. Everyday we're faced with quality decisions, in our manufacturing plants - is this good, is this bad? Do we ship, do we not ship? Companies make that determination based on a lot of times historical data. Have we ever had a complaint on this, or have we ever had a warranty claim on it? And if the answer is no to both of those, people say it must be alright then. So we will make the decision to ship product or let product go based upon whether we've had a complaint or a claim. The problem with that thinking is that that doesn't measure dissatisfaction.

I use the story of my father. My father's got a RCA television and a remote control that's got little bitty buttons on it, and his thumb is huge. I take after my mother, but his thumb is just huge. And when Dad pushes those buttons he hits two of them at the same time and it just infuriates him, to the point he is so infuriated he'll never buy an RCA again, not just because I work for Philips but he just won't buy an RCA again. But the problem is that RCA has never had a complaint, never had a claim. He's mad and they don't know it. Because the statistics will also show you that nine out of ten that have low to medium levels of dissatisfaction won't complain because they don't want to rock the boat. So, our thrust is to cut through those layers of complaints and claims and get down to levels of satisfaction. That's why we survey, I mentioned earlier that the telemarketing people poll our top 150 customers, because the only way you can find out is just to ask them. Because they're not going to call you. We do it through out consumer affairs with the people there. So, that's something that we take very seriously and we think that this is what the breakthrough is going to be for us in the nineties.

FC: So you're saying instead of waiting for the dissatisfaction to come to you, you go out and find the satisfaction?

RM: And in doing that we find the dissatisfaction, too. Because if we call people, then they'll tell us. If I call you and ask you how I'm doing, and you're not happy with me, then you'll tell me, whereas you may not pick up the phone to call me. So we try to be proactive, and survey not only our customers, but consumers. We make it a distinction between the two. The consumer would be a person like yourself that buys one of our products The customer is the intermediary, like the KMart or the Walmart that we sell directly to that you ultimately buy from. Both of those people are very important to us. KMart, Walmart's very important, but you are very important to us, too. So, sometimes you get entirely different results from the two people. The customer, the Walmart, they're not so much product oriented. They're mad because you didn't deliver it on time, or you promised us 2,000 and you only gave us 1,300. So their complaints are a little different than the end user which is almost always on the functionality of the product itself. So, if we're going to do total customer satisfaction we have to worry about both.

FC: You mentioned on the service company, you said that the employees have been empowered a lot more than they have in order to fulfill the goal of ...

RM: In the particular area of consumer affairs. The people who are handling the calls, to achieve 90% resolution on the first contact they have to be empowered.

FC: Has there been more empowerment because of this quality program, like in the different functional areas?

RM: It's slow in coming for two reasons. First of all, middle management feels threatened by empowerment. They feel that

they're taking a lot of their authority away from them, which says that they haven't come to grips that they're no longer expected to be managers, they're expected to be leaders. And there's a vast difference between a manager who's a control kinda guy, and a leader who just coaches, counsels, gives you some guidance, and you go off and do it. The second problem with empowerment is that you get the people that don't want to be empowered. There's a vast majority of people that want to be told what to do, when to do it, how to do it, I don't want to have to think, I'm here from eight to four thirty, and you just tell me what to do and I'll do it, and I don't want to have all this responsibility, and I don't want to be told that I can shut the line down, and everything like that. So, those are two barriers to empowerment, so you have to do a lot of training to really get an empowered workforce because you have to break down those two things. Did you see my sledgehammer?

FC: I saw that.

RM: See this is what we use to break down the barriers to total customer satisfaction.

HH: That's great.

RM: Feel it. It's a real sledgehammer.

HH: Oh my goodness! I can hardly lift it.

RM: It's a real one. It's just a little symbolism thing that my boss game me.

FC: So the middle management should be managers, not leaders, or leaders, not managers?

RM: Leaders, yea.

FC: Leaders, not managers, OK.

RM: If you come to work for me, I just wouldn't think that you would want me to tell you now do this and do this and do this. You sit down and say now this is the thing, this is the approach we want to do. You need to have the freedom to go and do. I'm here as a counselor if there's any problems or any barriers that you run across to help you with. I want to review this project with you at intervals here but I'm not going to sit down and do the whole thing. The former is the way we used to do it. We used to just sit down and control people, stifle them. So it's a whole new renaissance now to do that. But it has required us to do a lot of training of people my age and probably even ten to fifteen years younger. It's just not the way they were brought up. I don't know how the schools are teaching management now. I don't know. It would be interesting to see how your professors...

FC: Well, at UT quality is really being emphasized in the curriculum.

RM: That's why we use a lot of UT people. Of course, I think the business school is very, very good here, and Dean Neel group there, we do a lot of work with them. It's really been a win/win situation for us. We use a lot of coops and they're all excellent We get a lot of work done, and you know we pay them, too. But yet it doesn't show up as a headcount. We don't have

to pay our medical benefits or things like that, so it's a good thing for businesses, too, to utilize students. Plus it gives you guys some experience.
HH: Well, that's all we have.....

Jack Newbrough - Phillips Consumer Electronics

FC: OK, I'm just gonna start off with some personal questions. Could I have your full name please?
JN: James H. Newbrough Jr.
FC: And what's your title?
JN: Sr. Vice President of Marketing.
FC: And how long have you been with Phillips?
JN: Almost three years. About two and a half years probably. I came in July of 1987. I have to think about it, July of '89. I came from RCA. I worked there eighteen years before that.
FC: What was your position at RCA?
JN: Director of Marketing. Director of marketing for video.
FC: And have you always been Vice President of Marketing?
JN: No, when I first came here I was director of marketing for video, and then I was Vice President of Marketing for Video, and I was made Senior Vice President of Marketing for everything.
HH: And how would you describe Phillip's overall definition of quality?
JN: Total customer satisfaction. I think you can look on the wall and our commitment to excellance is total customer satisfaction, that's our slogan. And if you notice we all wear our Q pins. And that's a reminder of total customer satisfaction.
HH: How do you define customer satisfaction?
JN: I think it's serving the customer the way he wants to be served. In its most simplest terms. And we have a lot of customers. We have internal customers, and we have external customers. The marketing department has a lot of internal customers. The internal customers are the sales department, logistics, finanace, and various people internally. Our external customers are dealers, and the end users, the consumers. So we have a lot of customers, and that's why ... looks at it that way.
HH: Do you think the definitions of quality vary at all between the departments?
JN: No, this company, that is very prevalent here. We all know what we're here for. And we think we can translate serving the customer better into profits. If we serve him the way he wants to be served, we should get alot more business. We should make money. Because we look at it from a profit standpoint always. It's nice to have good quality, but there has to be a reason. I'm not going to do it just because I'm a nice guy. I'm going to do it because there's something in for me in the long term.
HH: How is the quality process organized within Phillips?
JN: We have a Vice President of Quality. He's the guy who runs and oversees the program. But the quality process really starts up top with the president. And it goes all the way to the bottom. And I think it started with him, and it came to his staff, and to our staffs, and it's taken an awful long time for it go all the way down to the ground roots. Because people

don't believe it. You can say it, but until they can see evidence of something happening, they don't believe it. So we've been involved, when I was at RCA we were in very much in a quality process like here, probably got started a lot earlier. When I came here they were just starting it. So I'd already been through it. And Randy Mitchell came from RCA. And I worked with Randy at RCA for many years, so I recommended they hire Randy knowing the quality program we were embarking on, why don't you hire a professional that's already done this. He's done this, he's been through it. He knows what's involved, and it makes it easier when you have somebody that understands the process you're trying to go through, cause it's a long process. And for us to train all of our employees, our goal is to make every employee be a part of quality meetings forty hours a year, forty hours of training. Now I've already had twenty-four myself this year. Sat in twenty-four hours of classes. We had one the day before yesterday that went about ten hours.

HH: That's in actual classes, not just meetings?

JN: No, we don't count meetings. We have quality meetings, too. Our quality meetings are a part of our staff meetings. The first part of every staff meeting is devoted to quality. It's always the first thing on the agenda, and we take as much time as we need for it. If it takes an hour, fine. If it takes two hours, fine. And then the staff meeting really begins with that.

FC: Is that in all staff meetings?

JN: All functions that we have, let's take the marketing department, that's the one I can answer to, because everyone does it a bit differently. All of my groups, the video group is an example, meets every two weeks, nothing but quality meetings. They have seperate meetings just for quality. They may meet an hour or two hours, they have a Quif, we call them, a quality person, a person who takes all the notes, and makes sure that the notes are distributed, and that any follow up action happens. We call them Quifs. They are quality facilitators. But we shortened it to Quif, they're quality facilitators. And we have one for my overall marketing staff, there's a Quif, and then each group has their own quif. They're the ones that make sure everything get done, distributed, and followed-up. They prod people to get answers and to do what they're supposed to do. So some of my groups meet once a month, some of them meet twice, once a week, some of them meet every two weeks. It depends on the size group. Color TV meets every two weeks. VCR meets every two weeks. I think advertising meets every week. They're all different and we're all working for the same thing, and we just won, the marketing department was just awarded our first big award. We won the quality four-phase award. That's the first award that you can win. This year we're working on what we call a PQA90 Award, that's the second step, so it's a year-long process. So we're well on our way toward that, and it requires a lot of documentation,

and at the end of the year when you submit an award you have to have all the documentation, they have outside people come in and audit you. So it's not internal people, and everything can be very objective, and they can fail you or pass you. We happened to pass the last one, so.
FC: And who awards these awards?
JN: Well, Mr. Johnstone, you'll receive a president's award. The first thing that happened when we won the award, we received a letter from him, individually, thanking this department for making the award and congratulating us. Then once a year there's a big award banquet and each department is recognized for winning, big dinner. There'll be extra incentives like taking your wife to dinner, take your spouse, whoever, in the groups. We don't give big monetary things because quality is part of your daily life. You shouldn't be paid to do it. You should just do it. But there is some kind of recognition, and it's kept to things like dinners or things like that, that's a typical example. We have all kind of stuff that we give. See our big Q.
FC: Mr. Mitchell had a big sledgehammer.
JN: Oh, I have that also. That's not for quality though. Well, it's part of the quality process, but if you read it, it says, it's to break down any barriers. Don't let red tape get in your way. Break down barriers which inhibit achieving total customer satisfaction. It started as a barrier to getting things done, and then we said it fits in with everything we've done, and we added the total customer satisfaction to make it a part of our quality program.
HH: Could explain a little bit more about the four-phase award? What that is all about.
JN: Well, the four-phase award is really the first step for a department to really get involved in a quality process. We always talk about a quality process instead of a quality program. A program has a beginning and an end. A process goes on forever. So the four-phase award teaches you to set up the quality organizations, it teaches you to do documentation, it teaches you to set goals and have objectives, and it teaches you to then look at the results, and then it teaches you to look at the payoff, what's the rewards. Then it's renewal, recognition, and it just goes on from there. The PQA90 is a lot more detailed... level. Once we've got everyone doing this, having meetings, then it gets into a lot more detail. It's actually six phases. I guess we could call it the six phase award, but the first one was the four phase award. And it's primarily to get you involved teaching. The second one is to actually make progress in the quality process. And there's six phases that they go through on that. And what I do, we break our whole marketing staff up into groups and say you two are responsible for this phase, you are responsible for this phase, and write up everything we need to do. Let's document it, let's make assignments and somebody do it. And then give us reports. And that's, what we had a couple of days ago was we made our

assignments for this year.
FC: So in the four phase award it deals more with teaching and learning...?
JN: Yea, I look at it as an introductory type, I look at it as an introductory level of the quality process. It's really what we would, people, you can't go to PQA90 until you go through the four phase award. So that's the first step, and for new hires, I've got three new guys I just hired, they have to go through a training session to get them up to speed because the rest of us are way ahead of them. So they have to go through a special, we have to let three guys go through it in one class. All three new guys went, just, because they see all this stuff and they don't know what it means. One's from Sony, one's from Panasonic, one's from Toshiba. We get them from different companies, and they may have something, but it's nothing like this. The only company that would have anything like this is RCA. And it's very similar, obviously if you've got the RCA guy running it. If you've talked to Randy, you'll know that that's where he's from. So we do special training for those guys.
HH: Have the other departments, have they had a chance to get this award?
JN: I think everybody has achieved it. I think. I don't think there's anybody that hasn't made it.
HH: Was marketing one of the last ones?
JN: No, marketing was one of the group that, a whole bunch of us got them at the same time. I think only logistics, maybe logistics got it first along with one of the factories. And marketing was reorganized a couple of times. So every time we'd start we'd have to reorganize and we'd have to kinda start over. So we got ours' along with a whole bunch of other departments, sales department, marketing department, I don't know how many, but a whole bunch. See you don't submit until the end of the year. So everybody submitted at the same time and as far as I know everybody in this company got it except for one group, but I don't know what group that was. It wasn't marketing, that's all I care about.
FC: You said that the marketing area went under reorganization?
JN: Well, because in the past we were organized, there was no senior V.P. of marketing. I was V.P. of marketing for video, there was a V.P. of marketing for color, and a V.P. of marketing for audio, and we all reported to the president. And he took me out of video and I became head of all marketing, so those guys all report to me now. And I report to the president, so we reorganized it in that way. It's the way we had been for a time, a long time we had been this way. It's a very typical organization for most big companies.
FC: Has that made communications between departments easier?
JN: Yes.
FC: And you said earlier the quality process began with the president and worked its way down. How did it work its way down?

JN: Well, by actions. Because the president can put a bulletin out which he did. We're embarking on a new process, total customer satisfaction. Wear this Q pin. All this nonsense, you can say that. The guy down on the third floor says Oh, another program. It happened at RCA. It's exactly the same thing. We said it, and even the managers that worked for me said that's a bunch of bologne. Until they see something change, your attitude has to change, and what you do has to change. You have to show them by actions. So I think what happened was, it took a year to a year and a half for them to see that hey those guys are serious. It took that long. It's taken us a couple of years for it to really sink in. These people are really serious. If the product's bad, you don't ship it. If components are bad, you don't accept them. You have to turn things away like that. In the past you say Well, maybe it's pretty good, the failure rate's pretty low, we'll take care of it through normal warranty. We don't do that. If it's bad, it's bad. If it's good, it goes. So it's actions, and it's finally having an effect.
FC: You said it took a year to a year and a half when it began, is that when this quality process began?
JN: I think they've had a quality programs here for years in marketing. But I don't think this quality process started until about the time I came on board, and I had nothing to do with it, I'm just. It was just getting started. It probably got really into full bloom in the first of 1990. That's why that we suggested that we hire Randy. Because we had quality people, quality people here running a quality group, but they were at a lower level, and I felt like that it should be elevated to the president's level, someone that reports directly to the president to have some stature, number one. Let people say, Hey quality is important, we have a V.P. of quality. He's not some peon out in the factory someplace trying to tell everyone because nobody would listen to him. So I think it was important from that standpoint that we elevate the quality aspect. Let people know it's very important. It's very important.
FC: And you mentioned the quif's. And there's a quif in every department, and then that quif reports to Mr. Mitchell?
JN: No, those people are as an example, the quif for our department is one of the secretaries. She's specially trained, she has to go to quif class. Even I went to quif training, and I'm not a quif. But I like to go so I know what they're saying and doing and making sure they're not wasting time. So we have, my old secretary is our quif. She's over in the video department. She's the quif for that department. She's also the marketing department quif. And her job is when we call a staff meeting, she comes as part of the staff. She publishes an agenda beforehand of what the quality issues that are to be discussed, and she gives assignments of who's supposed to come prepared to do what. She'll write the minutes of the meeting, she'll distribute them, and she'll follow up to make sure that people do their assignments. Then she reports, she

sends her reports into the quality group, which is Randy Mitchell's group. She keeps them abreast.
FC: OK, but that's not her only job?
JN: No, she's a full time executive secretary. But they don't have to be executive secretaries. We had one of our audio guys who was manager of marketing, was it for a year. His workload is so heavy now and he's traveling so much overseas that he ran through the end of the year and then we made Kate Rules our new one.
FC: OK, you said the quif sends the reports, the agendas of the meetings to the quality group?
JN: Everybody in the marketing groups, on the marketing staff. See, let me give you a little example. We have a big quality group. The highest quality group that we have is the marketing staff. And it's called a QIT, it's, or a QIS function. But it's a staff function. It's a quality staff function, that's mine, me and all my direct reports. That's on the the QIS team. Now the video group has their own team, and that's led by their V.P. That's called a DQT, department quality team. So we have a whole bunch of DQT's, and they're only handling their individual specific problems. Or any cross-functional problems. They bring their own problems together, they discuss them, they appoint CAT teams, corrective action teams. We use all these terms, but they're called CAT teams. And these CAT teams solve problems. As soon as the problem is solved, they disband it. My team is overlooking everything that the departments are doing, and making recommendations and changes and giving help where needed. That's our main function. We're also developing a quality mission for the whole marketing team. What's our mission, what's our statement. Giving direction to the guys on my staff and then go back to their own teams, their own departments, and they lead their departments, that's how it works. So the direction comes from the marketing staff down the to departments down to the CAT teams. But the CAT teams are the guys that solve the problems.
FC: And what does QIS stand for?
JN: Quality Improvement System.
FC: OK, so you have the QIS teams, and underneath them are the DQ teams, and they appoint the CAT teams. So where do the quifs fit in?
JN: They're a part of the DQT's. Every DQT has a quif, and every QIS, the big team has a quif.
FC: And how does all this relate to the quality groups, how do ya'll communicate with the quality group?
JN: Well, then Randy Mitchell's organization is the quality group that ties everything together. We're submitting everything to them. They keep, we have meetings we have with his people in the meetings. The come they spent all day with us Tuesday. Ten hours with us. A lot of times they do the presentations at our meetings so they're helping us to prepare. That's his group's job.
FC: Now you said the process started around 1989?

JN: I think it started in ernest in early 1990. That's when I arrived here and because we were just talking about all this big process, and they came to me and I said I worked the whole thing in a couple of hours because, and these people were just starting, so I was pretty much ahead of them. Because we had just gone through three or four years of it. Of almost the same thing that we're doing here.
FC: How did they begin this process, what, did they do it internally, or did they bring in outside consultants?
JN: We had no outside consultants that I know of. It was all done internally, and learning, it's an old process, it's not new. It's just that a lot of companies haven't done anything with it for a long time. We have a lot of GE people also, and a lot of RCA, and GE had this process for a long time also. So with a large number of GE people, large number of RCA people, large number of other companies that had done this process, it was pretty easy to get it started.
FC: So you think that GE and RCA were used as model?
JN: I'm pretty sure that the whole process was pretty much modeled after that type system. We've also looked at Motorola. There's a lot of examples out there of people who use different quality systems, but they're all similar. They have a six sigma thing. You can go through a lot of things, but it's, you've got to arrive at the same point no matter how you get there.
FC: Could you describe that six sigma?
JN: Yea, six sigma is a technical term on how they calculate things for their failure rate. It's actually a term that they use for no failures or very, very low failures. So you look at a thousand pieces and one's bad, or whatever term. But the six sigma is a term Motorola, we don't use it, it's a term they use.
FC: What type of improvements have you seen from the process?
JN: Oh, I think we've seen a lot of improvements in the fact that there's a method to the madness now. So that when there's a problem, there's a quick way to get a team on to solve it. Before it may be, it was difficult to solve a problem because you couldn't get people to, you had to go through a lot of red tape. What we've tried to do is cut red tape. I mean a lot of things have happened. One of the things I did was, I have a lot of people wanting to see me all the time. And one of the first things I did was look at my calendar and I had meetings all day. I don't ever take meetings in the afternoon, unless I make an exception. Here's a case. I made an exception for y'all. Because I couldn't do it this morning, but I, my secretary has complete control of my calendar for every morning. From seven o'clock until noon she can schedule anything she wants. After twelve I don't take any meetings. Zero. And I have all the rest of the afternoon to get my work done. Because I would find that I would have meetings every hour, every half hour, and you'd never have any time in between. You'd come back, look at the calendar, and go to another meeting. So I've stopped all that stuff. That's a quality improvement, a big

improvement for me. It's, time management is part of the quality function I think, and it's a biggee. And I'm getting ready to impose it on my staff. I've given them warning to get them prepared. They're always complaining they don't have time. I said that's because you don't manage your time correctly. They say people call me well don't go. You don't have to go. Tell them you can't go. That's what I do. The only guy that can call a meeting that I go to is the boss. If he says I want to see you this afternoon I go. Nobody else, unless I give special permission. I'd rather have them if they have a problem walk in here, spend five minutes and leave. I can solve all problems in a few minutes, and the door's open, they can walk in anytime. But we don't have a set down meeting, and it works well. That's just an example, but time management is one thing. It doesn't have to be a quality problem. Time is a problem, and any big company it's a problem. Too many useless meetings. The second thing is we make sure when we have a meeting, we have an agenda, we have a time to start, we know basically how much time we'll allocate to each thing, and we have a time to end it and we end it. We start it on time. If you're not there we start it anyway. We ended it, if we're not finished, we end it. Those are the type things you have to do to get some creditability. If you don't do that they wander in late to a meeting. We had people come in late today, and we started anyway. That's their problem, they know what time it is, they have to get there. They're big folks, I can't lead them around by the hand. They have to be responsible for themselves. And I think what you do is, you have people say, gosh we better get there. They'll start without us. Well it's true, we do. You're only late a couple of times. So that's some of the things we do. That has nothing to do with a quality problem, it's just a part of the process that you're trying to improve.

HH: What about the reaction at first? Was there some misgiving?

JN: Indifferent. People said, ah, it's just another program. I don't believe them, it's just another corporate slogan. All of those type things. I think there was a lot of non-belief, un-belief. And it takes time, and gradually over time we will overcome that. But you have to show action.

HH: How has it affected the culture?

JN: Well, number one, when you look at every employee they wear the Q pin. They didn't at first. They wear it everywhere. It's a habit, and what it's supposed to mean is people say does that mean quality, no. It's total customer satisfaction. That's what it means. Because that's our focus, and it's helped us to focus better, and I think it's changed the culture in the fact that it's not a joke, and everybody is focusing on making things better, improving things. This is a tough business. If we don't improve quality, the way we do business with the product, we won't be in business. It's that tough. This is not a profitable business for anybody in the business. I read in the paper today Zenith lost another, they lost $55 million

in the first quarter. $55 million in the first quarter, and they're in the TV business. It's a tough business. Nobody makes money in this business, very few people. So we have to be better, and if you look at the cost of quality, we call it the cost of nonconformance, it's millions of dollars. It could be as high as 50 or 60 million in our company alone. If we don things better there's a chance to save a big portion of that. That's when you can start relating to it, when you put a dollar figure on it. So hey if we do things right, we save fifty million dollars. If we do things half way we save twenty five, so there's an incentive to do things right.
HH: And every single person in the marketing department and the whole company is involved in quality in some way?
JN: Everybody in the company is involved in quality, even in the factories. Everybody, I don't know of anybody that isn't. If there is, I don't know them, and if we found them we probably wouldn't have them around here very long. I think that's why it's important for the new employees to get them started early right away.
HH: And the structure of the department or the company as a whole, has that been a help or a hindrance?
JN: It probably helped when we made a few changes in the marketing department, but it's not hindered. It hasn't hindered the process. The process is kind of an individual thing. You cna't make a person a quality person or do quality things. They have to come to that decision themselves. You can't make it happen, you can't force someone to be a good employee or a good person. You either want to be or you're not gonna be, one of the two.
FC: When all of the reorganization was going on in the marketing department, did that have any effect, or was that an effect of the quality process?
JN: I don't think it had any effect because individual departments were already doing it. The individual departments were already doing it. It was just a matter of just adding another step, and that's what we did with this group. And then it made communication a lot easier to the other groups. Now instead of having three groups talking to sales you have one. Instead of having the video marketing group, and audio marketing, and TV marketing, you have one marketing group now. That made it easier for us to have one to handle your internal customers. so it just brought it together.
FC: Well, what's been the impact on the marketing area as far as long term goals?
JN: I think it's changed the way we market. Changed the way we think completely.
FC: Towards total customer satisfaction?
JN: We, how can I say this? We used to always have a strictly adversarial relationship with the customer. Him versus us. We sell it to them at the highest price possible and make the most money, they try to beat us down on price to get the product to sell it for whatever they want, to try to make the most money.

And I think what this has done is caused us to develop programs that we develop partnerships with customers now. We didn't have that before. That's one of the offshoots. We have a program called Partnership '90 that I started last year, early last year when I took over. And one of it was to sit down with the customer and say what do you like about us, what do we do good, what do we do bad, how do you really perceive it, be honest with us. Do you see us as a fair company, but a lot lower than a Sony or an RCA? If you had to rate all the companies you do business with, where would we fit? Why? What would you like to see us change? And we go through the whole meeting. How do we compare in service? And total customer satisfaction? We have a whole bunch of them. How do we compare in shipments? In credit, in billing, and all these list of things in every category. Then you rate yourself honestly, and you say these guys are not bashful, they'll tell you. If you do a lousy job, they'll tell you that, or you do a great job, or you're just fair. So once you bench mark yourself against competitors in that dealer, then while you're in that meeting you say OK, here's the follow ups, here's what we're gonna do. We owe you an answer on this. We understand this, here's what we're gonna do. We'll come back to you on this date. So you have the minutes written up and you assign people tasks and you get back together and you try to solve the problem. Then we have a second type of meeting, that's the first type. The second type of meeting is called the dealer insight. I want to do fifty percent of your business, what do I have to do to do it? How much volume do you do totally? Who's your main suppliers? What price points do you want to hit? What price do you need? We spend two days with them just doing this. And we usually come back with a plan, and we come back usually and say well we can't do everything you want, but here's what we can do. And hopefully the answer is you get more of their business. So those are two programs that have really come out of this that we do it totally different than we used to. It came out of total customer satisfaction.

FC: What about short term goals?

JN: We have in every employees MBO's, major business objectives for the year, there's four or five quality goals that he must meet this year. It's part of his pay. His raise depends on it. Or his bonus depends on it if he's on the bonus program. It's just part of it. So quality is part of it as well as his business results. If a guy meets his business results and misses his quality goals, he's not gonna get the full benefit. He's gonna be penalized. The same way if he makes his quality objectives and he misses his business goals he's gonna be penalized. So it's part of the total package. Total customer satisfaction is playing a bigger and bigger part of compensation. Not only short term for this year, but positioning yourself for the future. If a guy has done a pretty good job this year, but he has left himself in a terrible position for next year, poor quality or poor organiztional or whatever, he's penalized.

Or if he's done a fair job this year and not met all of his goals, but he's done a great job of positioning himself for a tremendous year next year, he'll receive benefits for that. So we look at short term and long term. Longer term being from the following year, of course we do strategic planning which is totally different. We would normally have our people who are always working on this year and next year. Looking at that. My job in this, then look at the strategic plan for five years. With my record people are looking at two years. Three at the most.

HH: How do you measure quality?

JN: There's a lot of ways. Every one of our quality, there's a lot of quality indicators. I mean, maybe... these are not just some of them. These are specific ones that we look at every month. You'll see, these are monthly measurements. We even measure advertising. You can go through the list, these are crashers. These are programs that are not planned. These are projects that were not planned, and these are people that brought them as emergencies, we have to do this. You're not supposed to do that. You're supposed to plan, so he shows crashers. Some months it was real bad. He calls them crashers. They measure, we measure just about everything. How good do we do on forecasting? That's important, if you forecast too low or too high it screws up your sales results. You'll see even the professional service division, how are we doing on inventory? Keeping it under control? Not here. There's a level, they're probably supposed to be about I'd say three to four weeks is probably what his goal is. What's it say down here, four weeks? His goal is four weeks. So you can see that he's making it. And every department has their own. We go through lots of them. You look at marketing. Marketing would be broken down by product, audio, visual, and television. This is the quality index and it's got all the factories that audio comes from. Audio comes from all over the world, we've got factories all over the place. When you look back in video, it's the same thing. Quality index for VCR's, running almost 100%. 99.8%, that's how good the quality is on video, pretty good.

HH: Is that on defects?

JN: That's on defects. And that's after they're shipped from Singapore and Malasia. Alot of these are probably shipping, things that happened during shipment, only two tenths. That's very, very low. But you'll go through, and the call rate. What's this? Oh, this is camcorders, so you can see when you have a problem or rework, you'll have a bad month. Well, 99.7 is pretty good, pretty close. Our goal, they have to run 99%. At least. If they get below that we have a problem. So that's how we're measured on the product. Now there's a lot of other measurements that we don't show in this book that are shown other places that show our inventory levels. Are we maintaining control? Customer service. How are we at filling customer's orders? How are we at responding to questions they ask, things

like that. So there's lots and lots of measurements. But everything we do is measured. We don't have any quality goals that can't be measured. You can have some, but you better not have very many. If you have ten, you better have eight that are measureable.
FC: And a book like this goes out each month?
JN: Yea, we get this every month. This is published by Randy Mitchell's group. They correlate all the data. It's all sent in by the quifs, and the reporting groups, and it's all put into a book like this monthly.
HH: Compared to all the other departments in Philips, how easily do you think marketing grasped the whole quality process? Were they one of the ones who took it easiest, or did they have a hard time?
JN: Well, I don't think they have a hard time. I mean, the marketing people are pretty bright. They probably, some of them were probably more skeptical, but not more so than any other department I don't think. I mean, there's a lot of skeptics, and you say well, we're gonna do this, and you give them a little wink, you know. They say well he's not too serious. You can't do that. You have to be serious about it. It has to start with me. And that's the way we do it. So once people see that you mean it, they're pretty good. But I don't think they're any worse than anyone else. I think there were a lot of skeptics in the first year to year and a half, just like a lot of other people. Now they're all in the full swing of it. So meetings are going well. Processes are working, problems are being solved. That's what I've been doing in here the last two days, solving problems.
FC: What kind of value does the marketing department create?
JN: Well, I think I look at it a little bit differently. I wouldn't answer it directly like that. I would say this company is a marketing driven company, 100%. It's not a sales driven company. It's not an engineering driven company. It's a marketing driven company which means that we lead the company. And we realize that. So we give the value to the rest of the company's leaders. That's our value, and if we don't do it well, then we drag the whole company down. If we do it well, we give a lot of value. If we don't we give little value. I'd like to think we're giving a lot of value. I hope.
FC: And finally, where is the marketing department headed in the future? Where should it be?
JN: Well, I think it's headed toward a new type of thinking from the old type of thinking in this business. I think that those of us that have been around this business for a long time were pretty traditional thinkers. Very conservative, we understood the business well. We knew what we could do and what we didn't. And we didn't try new things. And I think what's happened with the quality process, it's caused us to be totally radical thinkers. We don't reject any new ideas now. And it's probably caused us to become more risk takers. Risk taking is good to a point. And I think that's what I'm

seeing come out of this with the new things we're trying. We're not afraid to try different things now. We assess the risk, and we calculate it, and we say it's worth the risk. If we fail, we fail. But we better learn something from it. So that's where we're going in the future. I think we're changing the way we think and approach the business, and approach it with fresh ideas now.

Supporting Material

PHILIPS CONSUMER ELECTRONICS COMPANY -- COMPANY AND BRAND HISTORY

The beginning...N.V. Philips, the Netherlands; North American Philips, U.S.A.

In May 1891, Gerard Philips, a mechanical engineer, and his father Frederik Philips, a banker, bought a buckskin factory in Eindhoven, the Netherlands, to begin manufacturing and marketing electric lamps and electrical products. After initial sales difficulties, the commercial talents of Gerard's younger brother, Anton, were enlisted in the enterprise and the firm's fortunes improved rapidly. By the turn of the century Philips had become the third largest manufacturer of lamps in Europe, and by the end of the 1920s there were Philips organizations in 24 countries, six of them outside Europe. In 1940, a New York office was established, from which North American Philips Corporation later emerged.

PHILCO

In 1892, the Spencer Company was formed in Philadelphia to produce carbon arc lamps. The company's second name change took place when it began producing electric storage batteries. The Philadelphia Storage Battery Company soon shortened its name to Philco. The company prospered and, by 1930, Philco was the leading radio manufacturer in the world. The company sold more than 1.25 million radios in 1934. Its closest competitor, RCA, sold only a half-million radios that year.

- more -

Philips Consumer Electronics Company
A Division of North American Philips Corporation

One Philips Drive, P.O. Box 14810
Knoxville, Tennessee 37914-1810

Telephone: (615) 521-4316
Telecopier: (615) 521-4891
Telex: 557446

SYLVANIA

In 1901, the Bay State Lamp Company was formed by Frank Poor when he bought out his partner's interest in a company which reprocessed burned out lamp bulbs. He formed the Hygrade Lamp Company in 1909 to sell incandescent bulbs. In 1924, a company called the Nilco Lamp Works formed a subsidiary to manufacture radio tubes. The subsidiary merged with Hygrade seven years later, and in 1942 the company name was officially changed to Sylvania Electric Products, Inc.

MAGNAVOX

The Commercial Wireless and Development Company was co-founded by R. W. O'Connor, Peter Jensen, and E. S. Pridham in Napa, California, in 1911. This young company invented the world's first electro-dynamic telephone the same year. In 1915, among the company's many developments was the first electro-dynamic loudspeaker. So significant a development was this first loudspeaker that the company changed its name to reflect the invention. The "great voice" -- Magnavox-- was created.

How they came together ....

Over the years, each of these premier companies independently charted its course in the flourishing new consumer electronics industry. By 1940, N.V. Philips had expanded its technology to include motion pictures, sound recording and television research. Philco sold its first television

How they came together .... continued

receiver, a 7-inch set costing $350, in 1948. Sylvania began manufacturing television tubes in 1947 and, like Magnavox, produced and sold its first TV set in 1949.

In January 1981 -- after almost a century of expanding, merging and restructuring -- an acquisition involving these companies created the third largest television manufacturer in America. North American Philips Corporation (the Magnavox parent company since 1974) purchased the Philco and Sylvania audio-video businesses from GTE (General Telephone & Electronics Company), creating N.A.P. Consumer Electronics Corp. On April 1, 1988, N.A.P. Consumer Electronics' name was changed to Philips Consumer Electronics Company. The Philips family of consumer electronics companies now represents the largest manufacturer of television receivers in the world.

Present and future ....

Today, Philips Consumer Electronics Company, headquartered in Knoxville, Tennessee, manufacturers and markets four separate and distinctive brands: Philips, Magnavox, Philco and Sylvania audio and video products. The company employs almost eight thousand people in Tennessee, North Carolina and Juarez, Mexico, working in manufacturing, engineering and warehouse facilities totaling more than 3.5 million square feet. And, the company's products are available in more than 23,000 retail outlets throughout the United States.

Present and future .... continued

Innovative new product technology will keep Philips Consumer Electronics as part of the world-wide Philips organization at the forefront of the consumer electronics industry. Its rich heritage in this area includes the first audio cassette, the first video game, the first laser disc player (Magnavision), the inventor and co-developer of the CD (Compact Disc) player, the first CD-Video player, and the first 1988-89 IDTV (improved definition television) to be announced into the U.S. marketplace.

The close association enjoyed by Philips Consumer Electronics Company with Philips worldwide will provide the broad base technological expertise essential for industry leadership in the 1990s and beyond. Philips, Magnavox, Philco and Sylvania audio-video are already positioned to begin their second century.

# # #

II. HOSPITAL CORPORATION OF AMERICA

Overview

The Hospital Corporation of America (HCA) is a network of 120 acute care and psychiatric hospitals located mostly within the southeastern United States. HCA uses a decentralized management approach in which the corporation provides support and resources to its hospitals while still allowing each to make basic management decisions from the community level. As the American health care industry saw costs rise 168% from 1973 amounts while the standard of living rose only 1% during that same time, customers became more selective. To meet those new competitive threats and to increase efficiency, corporate HCA began probing into ways to bring the quality movement into health care. By 1988 the corporation had created their Quality Resource Group headed by David Buchanan, and began the lengthy process of rolling out quality improvement to each individual hospital. Currently HCA has integrated the quality improvement process into about a third of their hospitals. Because each hospital does make its own managerial decisions, corporate HCA cannot force quality on its members. It can only assist and encourage those hospitals whose management expresses an interest in the process.

The organization of HCA is geographical in nature whereby all 120 hospitals report to one of six senior vice presidents who control a specific region. Under each senior vice president are twenty administrators who direct functional areas. The

very top corporate administration consists of an executive vice president, whom the six senior vice presidents report to, and then the chief executive officer, Dr. Thomas Frisk. The six senior vice presidents play a very important role in deploying HCA's quality process for they are the ones responsible for encouraging their hospitals to adopt quality. Mr. Buchanan states that "the amount of encouragement that comes from here continues to increase at different rates in different of these six guys."(Buchanan interview, p.2) Thus some regions are more advanced due to the level of endorsement given by their senior administrators. The level of competition a hospital faces in its area may also make a difference in how quickly a hospital adopts quality improvement.

The HCA Quality Resource Group has devised a roadmap, borrowing heavily from Dr. Deming's teachings, for each hospital to follow as it begins its journey toward continuous improvement. One requirement of the roadmap is that each hospital and each department within that hospital create their own definition of quality. According to Mr. Buchanan, HCA is not concerned with differing definitions among hospitals. "The important thing is that people are thinking about defining quality. What they say is not the important thing."(Buchanan, p.3)

The first step in the HCA roadmap is CEO curiosity, evidence that HCA views the quality process from a top-down perspective. Once the CEO starts the process, senior leaders are invited

to a six day course called Q101 at corporate headquarters in Nashville, Tennessee. Three days of training on the fundamentals of continuous improvement are followed by a month-long hiatus with homework and then by a concluding three day seminar. Once management has had time to evaluate and secure their commitment to quality improvement, they then progress through Q102, which addresses team leadership skills, and Q103, which introduces the senior administrative team to statistical tools. Armed with this new knowledge and a mentor from the Quality Resource Group to help answer any questions, the team is ready to move the quality process down into their next managerial level.

At this point, the hospitals take off their training wheels and begin to pave the road that will lead to continuous improvement in their organization. A coach is chosen from within management to spearhead the process. He or she also works as a member of the Quality Improvement Council which is usually comprised of top administrators or department heads and which oversees the rollout of quality through the organization.

In most HCA hospitals a marketing department does not exist, nor is there a marketing member of the corporate staff in Nashville. However, Gulf Coast Hospital in Florida is an exception because not only did it have a marketing department, but it's department head, Mr. Sean Keyser, became the quality coach for the hospital. Mr. Keyser and the Quality Improvement Council first set out to fulfill their short term goal of

training the entire hospital staff in two years. They had taken three years to plan out and experiment with their quality process before they actually started to train staff. The training sessions were based on FOCUS-PDCA (see p. 12 in "Hospitalwide Quality Technology Network") and were made challenging and fun for all employees, including physicians and the nursing staff. From that point, improvement suggestions in the form of a "blueprint" could come from anywhere to be approved by the Quality Improvement Council. Once approved, a team would be chartered to work on the process. The team could be either functional or cross-functional, depending on what type of process needed improving. If a team was chartered it had a member of the Quality Improvement Council assigned as a facilitator. However, quality improvement did not just happen in teams. Gulf Coast saw the most improvements when they moved into Quality In Daily Worklife (QDWL) situations where employees applied their quality training to their everyday jobs.

Mr. Keyser saw Gulf Coast's most important successes achieved by quality improvement as cultural change and the breaking down of barriers. Departments which used to never speak to each other were actually getting along now. People began to "feel better about their work, feel empowered, and felt like what they had to say made a difference."(Keyser interview, p. 8) The administration realized that "true management is optimizing the way your system works, and to do

that you have to get your employees involved" by empowerment. (Keyser, p.5) Management learned to switch from being "problem solvers and fire fighters" to being leaders.(Keyser, p.5)

At Gulf Coast the most progressive departments in terms of quality were pharmacy, nursing services, and marketing. Marketing excelled in part because of Mr. Keyser's involvement as coach. As he was also Director of Marketing, Mr. Keyser used the department as the customer research base for quality and to help design the training courses in a way which would be fun for the employees. Departments which lagged behind others tended to be those with a lot of physician involvement. However, Mr. Keyser acknowledged that learning is on an individual basis and everyone has their own pace. Therefore, "expecting the same results or outcomes from each individual or even each department is not really worthwhile."(Keyser, p.10)

Gulf Coast Hospital followed HCA's quality roadmap very strictly. Nonetheless, a few differences did exist between the two processes. The main difference involved teams. Mr. Buchanan believes that HCA may have "overdone teams" and that little Quality In Daily Worklife is exercised in the hospitals. Mr. Keyser, on the other hand, stated that QDWL was the most practiced and most successful form of quality improvement at Gulf Coast.

Corporate HCA and the individual hospitals seem to share some difficulties as well. Both executives recognized

deficiencies in documentation of the quality process, adequate measurements, and lack of defined goals. Mr. Keyser noted that though Gulf Coast's only long term goal was to "begin seeing operational improvements and to become a better hospital," it was still a very adequate tangible target.

The HCA quality improvement process has some very positive aspects. First and foremost are its intelligent, enthusiastic leaders such as Mr. Buchanan and Mr. Keyser. Each are very insightful and knowledgable on how quality can fit into the health care services industry. They seek not only to improve the hospitals within HCA, but they also network with other health care quality experts to share their observations. The top down process starts with senior management and takes its time working its way down to all employees of the hospital. Once staff members see that top management is truly behind and involved in quality improvement, and that this is not just another thrown-together program but instead a way of life, they are receptive and excited by quality improvement. The top-down rollout is indeed a positive area. A final plus for HCA is the fact that since they are a service company, they are possibly used to regarding quality as an abstract theory rather than just defects per hundred, and therefore quality improvement permeated more easily throughout all the functional departments.

For Gulf Shores Hospital two additional factors led to the successful adoption of quality improvement. The first is

age. Thirty to thirty-three is the average age of the hospital's administrative staff. Their CEO was only thirty-nine at the time. Mr. Keyser stated that "there is probably a relationship between age and willingness to try something new. I think not having a lot of experience in developing your own work habits over years and years made it easy for us."(Keyser, p. 12) Certainly a young administrative team would have less historical bias and be less entrenched in their ways, and therefore would be more likely to adopt a company-wide change agent like quality improvement. The second ace that Gulf Shores held was their strategy of making quality fun for their employees. The Quality Improvement Council sought to make the training sessions as enjoyable as possible while still teaching valuable quality skills. That quality was seen as something new and fun can be seen in the example of a pharmacy quality team. The stockclerks totally reshelved and arranged the entire pharmacy under the quality team name of Stock-It-To-Me. What spirit! Keyser noted that within his own department of marketing, where employees tend to be "very high-energy, creative people," an element of fun was definitely needed to overcome quality theory that he conceded could be "pretty dry at times" so that the staff would not lose interest.(Keyser, p. 14)

Although marketing does not have a well-defined place in corporate HCA, at Gulf Shores marketing plays a very important role in the general operation of the hospital as well as in

the quality improvement process. Because quality and marketing are both employed in identifying customer needs, they should fit together "hand in glove."(Keyser, p. 11) Due to the progressive ideas of Mr. Keyser, that union was very successful at Gulf Shores. In fact, it was so successful that Mr. Keyser worked himself out of a job. Due to his efforts, marketing is now done by the entire organization rather than by just a handful of people.

DB: The definitions of quality differ from one department to another. We ask every operating department to write its own quality definition when we go out. See we roll this out hospital by hospital. It's not exactly company wide, and in fact, that second level of management, those senior vice presidents, are the ones who struggle hardest with all of this. They've been, their responsibility has been bottom line results for so long that they continue to be skeptical of this value business. The rollout has been at the individual hospital level. We're aimed at those 120 sites out there. And I suppose we're about a third of the way through or so. I think we're half way through Florida for example. Some of those starts are four years old. So it's taken a while. In any case we have every hospital to have a quality definition and every department in the hospital to have a quality definition. Hopefully those are connected in some way. I'm not sure they are. People love to be individualistic, you know, do their own thing. But we try.
FC: Do you give any guidelines for the definition?
DB: Yea, I have some guidelines, you want them? Make notes about what you want. Guidelines for quality definitions. They are actually in the manual we use to teach the basic part. OK, how is the quality effort organized? One of the things I have for you is the thing called a roadmap. It's the rollout at the hospital level. Here at corporate the structure is that we have our group, the ten of us. And Betalden reports to one of the senior vice presidents who has access to Tommy (Frist), and writes Tommy's speeches. Tommy gave a speech last week on about quality improvement in Nevada. He does, many times when he has an opportunity to talk to a healthcare group, this is what he talks about. But the organization is us, and with their backing then we're supporting the individual hospital, and so the rollout is at the hospital level. The roadmap talks about the leadership having to be trained first. We won't work with them until senior people have spent some time, plus they come through the course here. We run a course here once a month called Q101, and six days in two segments. Three days, a hiatus of about six weeks and then three days more. During the hiatus they get homework. They're supposed to actually flowchart something and think about customers and quality characteristics, and bring all that back and talk about what they did.
FC: Can you repeat how it's organized? You said Dr. Frisk is at the head of it.
DB: Yes, Dr. Frisk is the chairman and the CEO. He's, Dr. Frisk is clearly the boss of this place. There's six senior vice presidents and an executive vice president.
FC: And they're vice presidents of seperate areas?
DB: Yes, each of the six has a territory. The distribution is geographic. So we have 19 hospitals in Florida, so Florida is one group. And there's an eastern group that covers VA to GA. And then there's a central group that's got TN. We've

got a number of hospitals in TN of course, and then out through the midwest, ARK, OK, and KY. And then there's a western group. There's one hospital in Kansas and in TX, and a couple in CA. And then the psych operations are two groups east and west. The psych operations are more generally scattered. Acute care is concentrated in the southeast from VA to TX. There are a few others but it really runs southeast. And then each of those six then has give or take twenty administrators reporting to them. That's the structure. And then we sit here at this corporate level trying to support each of those hospitals as they want to do it. So far we are working with those that say they want to do it. The amount of encouragement that comes from here continues to increase at different rates in different of these six guys. One of the differences now is that some of these six guys are moving faster than others in terms of understanding the value of all of this to their business. One of the papers I have to give you, is a paper called "Quality as a Business Strategy" by a fellow named Tom Nolen, who's a Demming master. And that sort of suits the sense that we're trying to communicate with people. They've got to connect quality with their business strategy or forget it. Either it's the way we run the business or it's not. Either we're going to build this into what goes on everyday, how we make everyday decisions at every level, top to bottom, or we're not. And half way in between is not going to get us much. You'll waste money. You'll actually create more barriers. As people begin to grasp the significance of quality as a business strategy, of value as the way we're going to market or provide health services, as we begin to understand those things then quality moves faster. Not everybody understands that at the same pace. I'm sure other people told you that. Understanding comes at different rates for other people. And so some parts of the company are moving faster than others, and the same out in the field. Some of those CEO's see more readily. The hospital in Atlanta in a highly competitive environment, that CEO has been very constant in saying I could always see that this was the way to market. Quality was the way to the market. It's crystal clear to him. Our other people who have no competitors are saying well I got where I got because I was able to create perks for the medical staff, for example. That's true. Doctors bring patients. It's unique to this system. The educational system, colleges, has some parallel in terms of the faculty sensing an independence, but they are nonetheless salaried employees of the university. Physicians, their connection to the hospital is very special. They bring the patients. It's tricky. We have one extra customer others don't have. In any case, not everybody views it the same way. And those who have been able to see the connection to their business future move faster. And we've been working with those and we kept busy, in fact our little group has been expanding over time, kept very busy supporting those who said they wanted to do this.

FC: Can I go back and ask you something about the definitions that each hospital, that each department has? Has there been any problem with the differences in definitions? Are they all pretty much the same, maybe the wording's different?
DB: I can't answer the last, I don't know how different they are. It's not an issue. The important thing is that people are thinking about defining quality. What they say is not the important thing. Someday that might be more important, but at the moment the issue is that people are beginning to declare themselves so that those who do business with them and those that work in the unit know what it is that we're trying to do. We're actually trying to get people to work on vision now. We were a little late in understanding the importance of a statement of vision. I think that will be at least as important, that is vision will help people line up in the same direction, and the quality definition will help them measure whether or not they're getting where they are getting to where they want to go. I think that will be a keener understanding of these expressions. We are a long way from worrying about whether we're going to have conflict.
FC: You said the quality is more organized within each hospital. Does it involve every person, or only those that are interested?
DB: That question was written to create an image of sort of a before and after. We were here and now we're here. All those people that talk to you about initiative or process, see they understand that there are no answers to that question. What we have is this enormous transition over a very long period of time.... About your question, we continue to learn about the barriers that we may be creating to having that happen. It's been kinda interesting to see that. The objective of course is that everybody in the organization is continuously improving everything they do. Are you familiar with the Toyota story about the several million suggestions a year, 95% of which are initiated? Let's see, and we get stunned by that, and the reason, I don't know is you know the answer to your question, we have this view of what suggestion means. And usually it means an idea I have for somebody else to do it better. We don't make suggestions of how we can suggest things. Of course what happens to them? The suggestions that Toyota talks about are actually reports. The time I was over there I saw it. They are actually reports of experiments that individual workers have carried out on their own work, and that they have demonstrated improvement. So when this suggestion goes up through the system it actually has already been proven that it will have an effect. And typically the suggestion has to do with the person's own work. One of the other Japanese writers talking about suggestion systems, I didnt' understand it when I first read it, it said people should start, the suggestion system should start with people making suggestions about their own work. If you just stop there, and there are no other types of suggestions, that's all there are, and then you begin to see what it means to have everybody at work. And of course,

the way that the suggestion then evolves is that people conduct little experiments in their own work, and then they report. Experiment is the word, that is what PDCA is. PDCA is the scientific method, it's conducting experiments continuously on our work. And we can do that on the smallest level, Toyota level, or we can do it at very large levels. Since we tend to want to do things at very large levels in our companies right now, there's no way to stop that. One of the suggestions we make to people is if you are going to make these enormous changes which you seem impelled to do, at least you ought to run the experiment. That is, how are you going to know what effect that this thing had. And we do all these things and we don't do any measure, and we keep making the system more and more complex without knowing if we are getting any value. And you can take that from the Toyota lesson that starts at the very bottom, and you can apply it anywhere. What we are trying to figure out is how to make Toyota work, how to do that here. It doesn't start at the bottom. You can't just go out to the workers and say do it. Our notion is you start at the top and work down. I don't know that we have a hospital anyplace that's all the way to the bottom. And of course there are lots of other ways for employees to participate, with teams and so on. Lots of things to be done. I think what we have more of at the moment is people in many different parts of the organization that have opportunities to participate in teamwork of one sort or another. I don't think we have much, as far as I know, very much quality in daily worklife kinda notions. But that is the aim ultimately. You have to have a structure that knows all. The Xerox idea is a fun idea. You're not getting your questions answered. The Xerox idea, each level starting with the senior leaders, it was learn, do, teach. Then the next level was learn, do, teach. And that you had to roll it out one level at a time. Having a concept of what you're about is often as important as exactly how you do it. That is, if you understood that this is the sequence, and to some degree we all have to work through this, and one of our doctors looked at that and said what this really is is learn, teach, do, review. Then we get this converted to continuous improvement. And the... doesn't happen. It's enormously difficult. And some places it doesn't quite work, but that's the idea, is this little slip between making it happen. And many of them, of course, try to leave these. I think our most advanced hospital left this level, actually the CEO, there's one more level. The CEO left this level to this level. It took it two years, maybe three. You've got a lot of activity. The department directors really wanted to do this. People get their hands on it, they want to go. But all of a sudden he had this middle level was confused, they didn't know what the hell their roll was. There was no review going on because they didn't know what to do. That's the notion of rollout. It's got to go top down. And it doesn't exactly, it gets to be a real mixed bag in every place. Everybody makes mistakes. Follow the line of least resistance. Do what works

and eventually it gets fixed we hope.
FC: Is it a suggestion process?
DB: If you want type of program, it's here (rollout), it's top down. If you look at the roadmap, CEO curiosity is the first box. There are decision points all along the road about are you ready for the next step, trying to hold to some semblance of this.
FC: What type of teaching and learning?
DB: We teach senior leaders here, and the course is six days. The first half is sort of conceptual. It teaches about customers and process and variation and organizational transformation. it talks about quality definitions and mission statements, and has team meetings. We teach a team process, a meeting process, and try to communicate the idea that if they can, that they now waste a lot of time in meetings. Really you should get them to say that they do that, and that if they could just run more efficient meetings, then they could begin to carve out enough time to do quality. A big barrier to getting started is people saying I'm so busy, how will I find time to do this? Then the second half of the course is a case study of improvement method. We've done a variation on PDCA that we call focus PDCA, and I'll give you that, and focus is basically the development of some basic knowledge about a process, find a process, not a problem, organize a team. We've overdone teams here. It's unfortunate about that. That's one of the barriers to getting down to the bottom that you talk about, is they talk too much about teamwork to get that out of balance. And all of a sudden people think that work is only done by teams. We have trouble with that. Then clarify the process, which is flowcharting and customers. It's understanding how the thing works, who the customers are, and all of that initial knowledge. And understanding the variation. Once you get process and customer you can think about what to measure. Sometimes we have that data and sometimes we don't. And then, once you know the process, and know something about the customers, and know something about the variation, you say OK, let's begin to try improvements, and then that leads you into PDCA. Focus is sort of slowing down of that P step so people aren't leaping to Do all the time. Some people find it too structured, too inhibiting. We're trying to find some other ways to let them think. It's not other ways to do improvement. PDCA is the only way to do improvement, but whatever it takes to get people's heads to move forward. Method is not what is important. It's improvement.
FC: So does this move all the way down to the janitorial staff, or is it more managerial?
DB: One of the most touching stories, we were working with a hospital in Washington D.C. briefly last July, but some of their senior leaders were fussing around with this and they got a team started in the housekeeping. We went up there later and visited with some of the physicians. It was like a teaching institution, some of the physicians were salaried and some were

practitioners. In any case, we went up there to work with them, and so they decided to bring in this team of housekeepers to tell their story about making improvements in housekeeping. And here are these young people, I think they were all men, all black, none of them graduated from high school, maybe their supervisor, and standing in front of these doctors who they've never seen in a group before, and terrified I think, talking about, the one on the end I'll never forget, you wanted to cry, and saying how much fun it was to make improvements. It absolutely blew us away. I don't know that we recommend starting at the bottom, as a matter of fact we don't. We like people to work on their own work. It takes a decelerator to the senior people who think the problem is out in housekeeping, and if we could just get the housekeepers. But they'd done it right enough that these people had the right stuff. Wonderful story.
FC: How long has this top-down process been implemented?
DB: The first hospital started four years ago, and we're still starting hospitals. I started a hospital last week. It's been sort of one at a time. We teach the senior leaders here, and then we go out and do the same course in the hospital for the department directors, and that's 35 people. And in between there, why don't we go back upstairs and look at the roadmap? ...All of these hospitals are organized essentially the same. There are people in every one who have the same job.
HH: Some have marketing people and some don't?
DB: In some hospitals it'd be pretty tricky to find a marketing person. It'd be the CEO who's doing whatever.
FC: And there's no main marketing department?
DB: There's no main marketing department.
FC: What kind of goals do you set? What are the short term and long term goals?
DB: I don't think we have any. We have a vision of sorts. We do want to get in the next few years a model so we can say this is a model for rolling out the quality improvement in a hospital. We're not there yet. We know that. Our vision is to be known as the premier source for information about quality improvement in health care. As I said, we are not shooting low. At the same time we are supporting other organizations. Ptalden is the chairman of a new entity called the Institute for Health Care Improvement, that is aiming at bringing together a lot of folks who are doing improvement and try to accelerate the networking and so on. There are a variety of networks, we have our own. There's a program in Boston supported by grant money, Hartford Foundation kind of money, and that has ended with extra funds to create this new project. You were asking about goals. No goals. Make this company run on quality improvement. Get all the hospitals up, although there's no specific timetable for doing that.
FC: Have you seen any improvements since you've started it?
DB: There are lots of stories. I don't think anybody can say there's any data that would say overall the place runs at a higher level. But some fun stories, the funner stories are

the ones where you get the doctors involved, which is not the first thing you do. There's only a couple of hospitals which are getting on with that now. A group of obstetricians in a hospital in Atlanta, I like this story because it is customer driven, they said we think we do too many C-sections. When our customers come to us to have their babies delivered they do not come to us to have C-sections, they come to us to have their babies delivered naturally. There's knowledge out there that the more C-sections done that are clinically indicated, that's been for a decade or longer, that there's optional ways of caring for mothers to avoid all that. In any case, these guys said that they were going to work on that, and see another reason this story is fun is that it wasn't viewed as a problem in terms of comparison with other people. One of the problems with the health care systems, everybody wants to compare to everybody else. And we sort of judge quality in terms of, if we were like everybody else we were OK. That's one of the definitions we've used for quality. Now you understand that that's dumb. For a long time it was hard to see how dumb that was. But they had a performance that may have been the best in the city, and still they said that wasn't nearly good enough in terms of the customer. So they decided to do something about it, and they did. It clearly went down. I'm not sure they understand quite how they did it, and that's not surprising in terms of new projects. You know, people start out, they say we're going to do something, we're going to try these tools and they kind of butcher it all. But somehow things get better. In fact they're trying to use that for marketing. They've actually made a videotape about this process, what they tried to do, and what they tried to accomplish. Employers, insurers, and so on are starting to make more decisions about how patients get directed to which hospitals, and it's interesting to see how unsophisticated they are. They don't understand why it's important that the C-section rate drop down, or why the number of admissions for chest pain went down, they did that too. They looked at their performance for chest pain and they discovered that admit patients for chest pain because they're not sure whether they had a heart attack, and it takes a little while to figure that out. And sometimes, even then you're not sure. In any case, a lot of those patients are admitted just to protect them, if the doctors think they had a heart attack but they're not that certain. So you get a very large number of chest pain patients admitted to hospitals who never needed to be in the hospital in the first place you discover after that, so you say to yourself is there a way we could do that better? Could we know more in advance and make better decisions about patients? And the answer is of course we can. And they did.... They don't get in and then go back out. The ones who do get in stay, and so all of a sudden the money changed. The total money went down, cause you had fewer people in the hospital. But the cost per patient went up, and this mentality about paying per patient gets in the road all of a sudden from

thinking about quality. Those kinds of things happen. Lots of stories about people working together better, and getting the turn-around time shorter, and the errors go away, and so on. We don't even keep track of them. It's not important to us. It's important for us to be able to talk to you about them, but otherwise, in terms of what we do it.... One of the problems we have had is getting them to keep track. That is document the stories to a level that we can repeat them. It's hard. I don't know if it's health care alone or culture or what it is, but we have this problem documenting. It's a real problem. We're going to talk about the roadmap? Let's see. A summary of the roadmap, CEO curiosity, top leaders learn their practice. This is the learn, do. It's a whole list of these, are we ready to move on. Then this is the department directors, middle leadership, and we go out and help them do this early training. And they learn, and we want them to practise. A sort of marker of progress is when this process begins to produce enough activity that it's worth having the senior people review it, and then some regular process of reviewing how all this is going. So we have a basis of continued learning based on feedback and so on. And then this is a little rigid in that some of this happens earlier, you can't stop it, but the idea that we go from more simple kinds of things to more kinds of things, cross-functional teams, getting physicians involved, that's the clinical part, making connections with people outside, and so on. And then higher levels. And then this is the detail, so this is sort of this box. We do the mentoring. Each hospital has a connection to one of us, somebody to sort of ask the questions about their progress and what they're supposed to do with ways of learning. Each hospital has a coach, somebody. We really resist the idea of quality departments. We try to view this as some temporary kind of thing, I'm not sure how that's all going to wind up. But the idea that we don't have somebody to assign this quality stuff to. The coach is sort of tricky. One the one hand they might need to be knowledgable to do a lot of teaching. They're proding people. They're trying to get people.... At the same time to not get assigned to quality. And then all this activity early on, not much going on in the hospital generally, but the leadership is working on all this stuff.

FC: Now when you went through the middle management, the CEO, and when you teach, when you go through this process, do you find resistance?

DB: Sometimes. We tend not to see it, and we're not that close to the hospital. We go out and teach and sometimes you have people asking questions making comments that suggest that they're really struggling to understand how this relates. But for the most part that's something that's underneath the surface when we're around. It comes up later. People simply don't participate. They don't do things. And it's not directed. We let people at this level sort of decide when they want to start, and we expect that they will be doing the same when we

get to this level, sort of letting people get used to these ideas, fuss around. One of the Director of Nursing at one of the big hospitals, I swear it took three years.
FC: Is there any specific executive at a hospital that wouldn't, that you found like would the V.P. of finance, or the V.P. of marketing, is there any specific executive that you find over may of the hospitals doesn't accept it more often?
DB: The finance people may struggle more than others, but not marketing, I would not say that. I don't know them all. The marketing guy at one is the coach. The marketing lady at Tallahassee should be the coach, they don't have a coach yet, they're kinda fussing with that. The marketing lady struggles a bit. She's one of those that thinks she know more than we do and so she wants to say well I already know how to do all of that, but they don't. That appears everywhere. You see that in all kinds of people, so I don't think that has to do with the fact she's in marketing. She thinks she knows how to do customer service better than we do. One of the few things we have done for them is design the standard customer service. Not that they shouldn't do a lot more, but we got them started. In that one case that's caused us some friction. That's fine with us. The conflict is actually internal, it's not with us.
FC: When you mention the coach do you mean that for this person, so the marketing people who are the coaches at these hospitals, does that mean that they are the ones who are initiating or at least reinforcing the quality process?
DB: That's a good word. The marketing director at Gulf Coast has been doing a lot of the teaching, a lot of the networking, talking with other coaches, trying to keep the knowledge level of these people advanced.
FC: Do you think it's because he's in marketing, and marketing is supposed to be customer oriented, like we have already had the background in it, is that why, or is it just his personality, or what?
DB: Hard to say. See coaches are from all different departments. So there's no, if we had a preference it would be that we'd shoot high, that it would be someone in the senior management, maybe a younger person in the senior management. Some say that the coach should be somebody that is qualified to lead an organization, or will become qualified to lead an organization, that quality responsibility should be a part of a career path.
FC: We may have to rush a little bit.
HH: You mentioned culture a while ago. How has the quality program affected the culture in any way, or has it?
DB: I'm not the one to ask. It's real hard. Some of them out there will tell you the place is entirely different. One of the coaches said to me, the most important thing that happened in the first year was that we got pharmacy and nursing to talk to each other. The rest of that stuff is irrevelant, no where close to that. So we had somebody, we do this little exercise about the barriers and so on, and she said well I started to

write down all the names of our departments in our hospital, and I couldn't really find two that get along with each other. And of course when all this starts, that all breaks down. But I have trouble answering the question what happened. They're all in the midst, sometimes it goes down and people get frustrated cause they're expected to do this additional thing.
HH: Do you have any measures?
DB: We're now trying to get them to read this from the Harvard Business Review. For ourselves we have measures from different levels. Our job is to rollout quality improvement, to get people to do it, and I don't know that we have measures. It's probably a deficiency. The hospitals also don't have measures. They have terrible measures. All we have ever measured is finances and to some degree defects. The Census of Quality Assurance in Hospitals, and there is such a thing, they could spend days telling you what they do. It is an attempt to find the defects. It's all focused on finding out what went wrong, and then believing that they can fix it simply by knowing what went wrong. The idea of understanding variation, knowing how it works all the time, good, bad, in the middle is totally new and very difficult for them to grasp. We've been twenty years into this defect business and are accomplishing very little. Every now and then you go to a hospital that says we're going to get out of doing that stuff, but it never gets anywhere. It's not obvious that just looking at the defects won't get you where you want to go. So measurement's a problem. We know it's big and we're kicking them hard.
FC: OK, let me go back to the beginning when we asked, when you talked about how it began, Dr. Frick and Dr. Ptalden. Dr. Ptalden was looking for somewhere to implement his ideas.
DB: Yea, he wanted a place to work that was big and had resources.
FC: And then he hired you..
DB: There were five of us.
FC: And all of you just deal with quality.
DB: Yea, we were hired to do this. There are now ten of us.

Hospital Corporation of America
Sean Keyser

FC: Could I get your name?
SK: Now this is all going to be past tense, right, because I'm going to be talking about the role that I was in? OK, it's Sean Keyser, and my last position with them was Administrative Director of Customer Services and Quality Management. That was an assistant administrative position over about eight different operational departments. Prior to that I was Director of Marketing.
FC: What's the difference between the two?
SK: Previously I was a department head and didn't have any operational departments reporting to me. When I moved to my next position I had other department heads reporting to me. It was the next level of administration.
HH: From your viewpoint, what was HCA's definition of quality?
SK: I could give you their definition. It was a printed statement that they have, but by and large HCA's quality definition is stated as continuous improvement of services through various means. That seems pretty broad but that is a real good definition. Quality to them is constantly trying to improve things. Then they get really specific in their guidelines and real specific in their statements on how to achieve that. It's not a pie in the sky definition. It's a very tanigible thing. When you have ways to achieve that then continuous improvement of services is a good definition. I'll give you a copy of that definition if you don't already have it. Continuous improvement of services to meet the needs of their various customers, and those have changed since HCA started in quality improvement, the list of customers have changed slightly. When they began the quality improvement program they were not a public offered company, we had taken ourselves off the market for a number of years. And by last January HCA went public again so added to the list of customers was once again the stockholder.
HH: And how would they know that they had met the needs of those customers, what were some of the definitions for that?
SK: The definition for customer satisfaction? They used some pretty sophisticated means of gauging their customer satisfaction. HCA uses a company called MCG research to produce customer satisfaction tools, commonly known as HQT systems. Hospital Quality Trends systems. That's a survey tool that is broken down into various customers. The most common ones that they used were HQT physician surveys, HQT patient surveys, and employee surveys. Those three were used. They're like any other customer surveys in that the customer fills them out, responds to questions, but the difference between these surveys and others is HCA took that data they received from the customers and they measured it over time. In quality improvement we learn about that. The important ticket really is to measure data over time and see how you're doing, how the process of satisfying

customers is working. So they took waves of data and measured them on scales so they could compare themselves to previous terms. I guess focusing on the physicians and patients and employees. They had surveys available for lots of different customers but that was their most common way of guaging it. And then the hospitals supplement that with their own tools. Some hospitals use shortened versions of those larger surveys, to confirm data, or just to get more data on what a customer meant by a certain definition of quality. And they had lots of different categories from overall impressions of hospitals to individual departments and their performance. They are pretty detailed.
FC: You mentioned HQT. What is that?
SK: That stands for Hospital Quality Trends. So specifically they are getting a quality issue.
HH: Do you think the definition of quality differ from department to department?
SK: I think it differs. I think it helps. The point was to try to give the organization a picture of what we wanted to achieve through quality which is continuous improvement. I think that definition was the same for departments though it wasn't in our hospital, but their means of achieving it were going to be different. Some departments were going to be, you know, they produced product. Other departments just produced a service and the way someone defines quality in service is much different from products. It's hard to pin down what someone means by friendly. How do you define friendly? It's pretty easy to define how you want this test at this time and then whether it's there or not on time I know if it's quality to me. Those kind of differences between departments are how they achieve quality.
HH: How is the quality effort organized?
SK: HCA, we fell within their roadmap, within that about 3 and a half or four years ago when the CEO of the hospital I was in got curious. One the roadmap that they gave you there's this oval that starts at the top that says CEO curiosity. That's where it begins in the hospital. I guess it was a little over three years ago that our CEO got curious about this stuff, and what he did was went to a training seminar known then as 101. They had lots of different training seminars. He went to that and came back to the hospital and brought his senior administrative team together which included our controller, our assistant administrator, myself, our chief nursing executive, and himself, so the five of us in senior administration. At that time I was in marketing and that was a senior administrative role at that hospital. The five of us went off together and went to 101 here in Nashville which was the fundamentals of continuous improvement. Following that we went to what was known as 102 which was team leadership skills and that was held in Niceville, Florida. Executive Learning was a part of that. On the way back from that session we were in this van and that's kinda when we made our commitment to do quality improvement,

because it was left up to the hospital how much they pursue the quality effort at that time. And we had a very young, very aggressive administrative team. Even the administrator, he was only about 39 or 40 at the time. This made sense to him. It threatened a lot of the traditional administrative ways, but still it made sense to him. And in that van coming back we just decided to formalize our efforts, and we selected a quality improvement council, a group of people to help lead the effort, and we pulled some names out of different people in the hospital, including ourselves to help lead this effort, and also at that time selected a coach, which was myself. I kinda half volunteered, was half selected for that. From that point on we followed the roadmap pretty strictly. We trained ourselves. We went through the next level of training which was 103 which was the statistical management portion. And with that ground set of courses, 101, 102, and 103, the fundamentals, teams, and statistics, we then further solified our quality improvement council which included five other department heads in the hospital. We sent them off to Nashville. It was actually about a year later that all this happened. We spent about eight months just working on our own internal processes trying to think about the impact of this on the organization, practise some of the stuff that we had learned cause that's real hard when you're talking... manual and school, and marketing especially. Here's what marketing is and you can't waver from that. You have to batch all that conventional wisdom, and really change the way we do things. It was after that we sent those other department heads off to be trained in Nashville. They came back and then we began the next step in the roadmap which was personal learning, personal practise... staff as far as training internally. So we followed that roadmap that Dave referred to pretty exact. When I left there we were about three years into it and still training staff. We were still at that level. A lot of quality improvement teams were going, but we were still training staff. I think when I left about 65% of the staff had been through our version of the HCA training course called Q101.

FC: So how was it supposed to be organized after the employees were trained, how was the program going to be organized, or what kind of program did it have? Did the employees have a quality team which was underneath another quality department?

SK: No, quality improvement process was what we called it. One of the things we really tried to do was eliminate the word program, although it is real natural to call it that. We wanted to eliminate that because in HCA as well in other American organizations programs are flavor of the month. There's a new thing they're doing. Here's a new MBO program. Here's a new reward system. So we wanted to help them realize that this was a process of just changing the way we think about work. And it was pretty, although the structure for us in administration was pretty formal, the employees didn't really know that. They didn't have a sense that this was this top

down top heavy program. What they saw was, we invested in them a couple of days worth of training, and stuff they really loved to hear. It was really challenging to them, and we had a lot of fun. And from that point on improvement suggestions could come from anywhere. An employee may see something that doesn't work very well in the hospital, and send what we called a blueprint to the quality improvement council, which is basically nothing more than a suggestion but it gets into a lot more detail. Previous suggestion systems in hospitals or any other organization are usually pay me more, give me more benefits, that kind of stuff. This was a suggestion form that asked the employees to think about what was it they thought needed improved, who were the customers of that process, why would they benefit from it now, who are some people that might be knowledgable of how that process, we get people to think of why they are suggesting process improvement, and those blueprints that we called them would be forwarded to somebody on the quality improvement council. The quality improvement council again was made up of ten members of the hospital, five from administration and five department heads. What would happen with that blueprint at that time, teams were one of two different kinds. There was functional teams or cross-functional. Cross-functional simply meant across department lines. You could have people working on the admissions process for a hospital. It would be admitting people, lab people, volunteers, business office, lots of different departments. That's a cross-functional team. Functional teams tend to be interdepartmental. So what happened was that if a blueprint came to the quality improvement council suggesting we allocate resources for a change, if the process was cross-functional, across department lines, and the quality improvement council felt it was real important to work on that process at that time, we would inquire into why this equipment now, are there people working on this process, will we have to spend a lot of money on it right now, those kind of things. If we decided it was good to work on at that time, which almost all of them were, we chartered that team. And when you chartered a quality improvement team that meant simply that we gave that team one of the quality improvement council members as a facilitator for it simply to be an assistant to their effort. If it was either a functional team or a interdepartmental team and we all just said go, get after it .... If we had we'd have way too many teams and way too many people ... That's real basically how it worked. Quality improvement was not limited to teams, as a matter of fact, the real improvements began happening at light speed when we got away from teams doing everything. We got into what we called Quality In Daily Worklife, QDWL I guess is the industry buzzword for it. And that just meant that the people who had been trained just applied those skills to their everyday job. The training we gave from physicians down to dietary aids was the same. I know that the skill base and knowledge base enabled them to change their individual work habits, and to think of improvement

as stuff to do every day. That's where real quality improvement starts happening. Although teams are something they are still working at and is seen as very important, we just didn't feel it was as important as individual work habits. So it wasn't, although it was formal by setup, the employees just saw it as a way to think about work differently, and when they wanted to do that with some structure they submitted a blueprint to the quality improvement council and just sent them on their way. And the facilitators, the people on the quality improvement council, they weren't given to these teams to be, you know, here's this great hero who's gonna help with this project, they simply had more knowledge, more training in the fundamentals of quality improvement and teamwork, so that as the team sat around the table like this, they sat over in the corner and helped them with meeting process, getting through and solving conflict, moving through various steps like you see on the walls, helping them use the tools of quality improvement to do more, to do much more efficiently, and to ...

FC: Did the employees, the individual employees, gain more authority to change things?

SK: Absolutely. The big word also right now is empowerment. People get sick of hearing that but it's a great word. What we do is we had our managers recognize that employees are brilliant people. They are just fantastic, and we have never tapped their knowledge base. Historically, and not just in hospitals but all over America, we have just always thought that senior management should make all the decisions. We take care of everything. And so we are trained to be problem solvers and fire fighters and that is how American managers think. I guess at our hospital we were real fortunate, our management team, I'd say 85% of them were willing to accept this new way of thinking. They were not egotistical to the point where they didn't want to relinquish power. They really did want to tap the knowledge of their employees, and the more they realized that they had a lot to share and a lot to help, they got excited about that. Most of the managers at that hospital realized that true management is optimizing the way your system works, and to do that you have to get your employees involved. So they just took a step back. I guess the ticket for us would be trying to switch from management to leadership. And leadership is getting your people to work... It was literal in the books. The textbook theory of what should happen when empowering employees happened in this organization. Just one case in point, probably the most progressive department in the hospital in quality improvement was pharmacy. And within the pharmacy, the director at that time, she was approached by some of her stockclerks in the pharmacy about considering a change in the way the medications in the pharmacy were stocked to make it easier for them, and to make it easier for those who came in there to get items, and to make a pretty long story short, she realized she didn't know much about that process. That was not what she was involved with day to day. The stock

clerks did know it, they formed a team. On that team which was called Stock-It-To-Me, there was no manager, there was no pharmacist. It was all stock clerks, and they totally restocked the entire pharmacy with no assistance from management at all. That's empowerment. And those people went home every day feeling like I really contributed something today. I changed the way my department works on my own. Management loved it, we were like, go for it.
FC: So did the individual, if they saw any changes they wanted to make they took it to the quality improvement council?
SK: Yea, or if were a quality in daily work life effort, people just went to their managers and said we think this could be better. Like before, she just said go. That wasn't anything that was real formal. Although the quality improvement council knew it was going on, it wasn't so they could sanction it, say you can do this, it was because we wanted to learn from them and help them if they needed help and be aware of their successes. So that wasn't real formal. Alot of the teams in the hospital were not formalized, chartered teams. It was like the three of us, if we worked together, and came in this room to work on a project, and we tied it into quality improvement somehow.
FC: Did the quality improvement council monitor departments to see how much improvment they made?
SK: We didn't for the first couple of years, and really I shouldn't say the quality improvement council did, the administration did. Once we did, we had given our managers about a year after their training to, a year after they had had their training and had an opportunity to do their exercises and see the mission of their department, their vision and all this kind of stuff, customers and suppliers. About a year into it we had to ask them, now what is going on? And how is it going? So we initiated last year quality progress reviews which were an opportunity for each manager to come in once a quarter and talk about their progress in quality improvement. It wasn't an evaluation time because quality improvement from HCA's perspective takes much from Demming's teachings. It's real Demming based, and he has a real problem with evaluation and inspection. So we weren't calling them in and saying what were you doing, you know, and all of us looking down at them. It was how's it going, what can we help you with? Are there some scenarios you could use some moral support with, are there some areas you feel you really excell in? So on one hand it was just to give them an opportunity to celebrate. On the other hand there was implied accountability there, and that is what counts. Because the expectation was this is the way we're going to manage in the future. Quality improvement makes sense to us as an organization, it's going to be a strategic policy as well as just a good thing to do. And if you're going to be a manager in this organization you're expected to buy this not because we're going to force it on you but because it makes sense to us as managment. So the administrative council

monitored the progress of departments by that and also by informal means of just hearing about what's going on in the departments. So not every organization puts in quality progress reviews, but it's becoming more popular because the expectation is the management of the future. We don't want to manage half old way and half new way. We want them to manage all new way.
FC: What were the short and long term goals?
SK: Short term goals were to train staff, follow the roadmap as specifically as possible but short term was to train people. Organizations have different ways of deploying quality improvement. They usually go one of two routes. Either they don't say much about it, there's no hoopla, there's no introduction, newsletters or that kind of stuff. They train a little bit at a time, and take years and years to do it. Or they wave it all in at one time, and that's what we did. We didn't have a bunch of big campaign kickoff but did start training immediately pretty massively, one session per month. About forty people would go through that session, and so the goal was in two years to train the entire hospital staff. That doesn't sound very short term but quality improvement causes you to think differently about what short term and long term means. That was a short term goal for us. Prior to that, American management, a long term plan was their one year business plan. It's just a different way of thinking. So to do an awful lot of training, but mainly our short term goals were for the administrative team especially to make this a way of life. To begin actually operating and taking to heart this stuff that we had been taught, and that's a lot of stuff that I probably could not ... So short term, make it a part of our daily work life and to get the staff trained. Our long term goals were to begin seeing operational improvements and to become a better organization. We called it hospital B. We wanted to go from hospital A to hospital B. Hospital A is a good hospital. We were very successful financially and everything else. Hospital B was that same organization in an improved version now operating under quality improvement guidelines. So our long term goals were improvement, and that sounds fluffy but that's really all we could say. We didn't want to set a bunch of arbitrary goals, which is another Demming point. We don't want to set a bunch of arbitrary numerical goals, we want to do this by this. The roadmap ... It does take a long time. We were three years into it before we began training staff. That by itself sent a big message to our employees because they had never seen anything last a year or two, much less three or four years. And when they realized that the administrative team and the management team took that long before they even let everybody else in on it, they knew we were taking it seriously.
FC: What kind of improvements have you seen? Did you see the short term goals fulfilled?
SK: Oh yeah. There was another term out there called an operational definition, what do you actually mean by an improvement? Historically what we have looked for when we looked

for improvements is what did you see on paper, what are the bottom line results of this, that kind of thing is how we're trained to think. It's sad. We saw bottom line results, we saw teams that resulted in savings. But the real improvements, the real successes came in the cultural changes of the place. I think the most important thing that happened in our organization and in HCA as a whole was the cultural development. People feeling better about where they work, feeling empowered, feeling like what they had to say made a difference. And it wasn't organization wide. The old way was still there. There were still people who... it threatened them. To not paint this picture that it was all roses. It was very difficult. Anytime you go into something that's been one way for twenty years and you say how about trying things this way... that threatens a lot of people. A lot of people are proud of being problem solvers and fire fighters. But I think I can wrap up with an example of cultural development. One of the managers who reported to me was director of environmental services, and during his annual evaluation he and I sat down and I asked him what was your biggest success of 1990? And he said I can tell you the biggest success I had. Before we did quality improvement, when I had a problem and I had to talk to the department manager about it, I couldn't talk to him. I couldn't get past the front door. Now anytime anything happens, I can go to that manager and say we have a process I think is not going well here, I need your help. And their response was you bet, I'm a part of that, I'm and a customer and a supplier to you, and so forth and so on. The dialogue had opened up. And what we saw was a breaking down of barriers, another Demming point. Break down barriers. In staff areas that occurred so fast, and we saw huge gains in interdepartmental relations, which was one of our goals to get departments to quit thinking of themselves as little boxes and realize that they were a part of this organization. And breaking down those barriers I think was by far the biggest success we had. And that showed. I mentioned the HQT employee viewpoint survey, this is the survey that is taken of all the employees...and probably 75% of the employees responded they were. And they had benchmarks which rated the satisfaction of the employees from the previous survey period which was 1987 to 1990. So there was a three year difference. And in areas such as supervision and in pride of work and things like that the improvements were sometimes 30-40% difference to the positive. Great gains were made to the organization in how they felt about work. They saw the administration and the new way of thinking and they knew something was going on, and it made sense. They hadn't even been trained in that, they just knew something was up. And they saw people who had been very pesimistic and cynical for years opening up to people. So those are successes and those are not things you can put on the bottom line. You can, if we ever get a sophisticated enough measurement tool and we can measure the potential cost of turnover as a result of cultural development, people who

stayed with us because they felt better about where they were. If we can measure that we might be able to put that on the bottom line. But there were people who wanted to work there that may or may not have stayed but the quality improvement made that happen. Short term gains, short term successes were the quality improvement teams and what their work was. There were quality improvement teams that worked on everything from improving pharmacy turnaround time for medications to preventative cleaning of patient rooms to catheder problems in the clinical teams. All of those had short term successes. Defining success I think is real important. Some of those quality improvement teams may have set out to do this, OK. And in their work they found out that they couldn't do whatever it was they set out to do. Their objective may have been to reduce turnaround time for something and when they got finished making their improvement, maybe that didn't happen so traditionally we may have written that off as a failure. In today's organization we are trying to build learning organizations. What did you learn from that? And the learning that took place in some of those quality improvement teams lead to greater improvements in other areas although not in that area. So what we used to write off as failure turned into a wonderful opportunity. We discovered other stuff in the process and learned. And that's a real success. That was short term and long term because it gave us an idea on how to think differently about what success and failure were. That's why marketing people like us, I was a marketing student also. I was in school when management by objectives MBO was everything. That's a lot of hogwash. You set objectives and you don't know whether or not people can meet those objectives, you just set them. And you don't really consider what we learned from them. Either you did learn something or you didn't. You're a success or a failure. Quality improvement just bashes that whole way of thinking and teaches us to think about success or failure much differently.

HH: Of all the different departments were there any who lagged behind in grasping the quality idea?

SK: There were departments that definitely lagged behind. I shouldn't say departments because I think, you had department managers who were much slower in adopting this philosophy. That didn't always mean the department did. Sometimes the student teaches the teacher. If some of the staff in the department went through their training and came back real fired up and did some work, sometimes that pushed the manager to get involved more. Other times the leader of the department did slow greatly the progress of that whole department because of the way they felt. I can say the ones that excelled the most. I mentioned pharmacy. In our organization nursing services excelled, and that is a very important point. If you look at hospital quality improvement efforts, we have seen that in many cases nursing services have not bought this very quickly. And if nursing services as a whole doesn't buy quality improvement, it's gonna slow the whole hospital because half your staff is

nursing in most hospitals. They are the hub of the organization. No matter what anybody else thinks, in health care everybody is hospitals is basically to support nursing. That's what hospitals are, they provide nursing care for patients. That's what they do. So if nursing services doesn't buy this stuff there's problems. At Gulf Coast nursing services took this stuff and ran with it. Some of the departments that probably did not buy this as quickly may have been some of those that had a lot of physician involvement. It wasn't that physicians didn't buy it, it's just that you're more sensitive. Physicians are very skeptical of any new thing the administration does, and so the managers who had a lot of physician involvement had to be careful how thy pushed this out in front of them. They were in sensitive positions. I can't even think of one department that didn't buy it. Some may have been a little slower but by the time I left they were pretty much on track. ... And I think an important point there is Demming. In his latest work he talks about intrinsic motivation and recognizing that people are different. You have to recognize that, and expecting the same results or outcomes from each individual or even each department is not really worthwhile. It doesn't get us very far. You have to recognize that people learn differently. And we did that early on before we read any of Demming's stuff on profound knowledge. We did recognize that not everyone would come at the same pace. People like me, the first time I heard this I was like yea, we should have had this yesterday. Let's go. Other people who had been in departments for fifteen years and this threatened everything they'd known, and we had to be sensitive to that. You can't just go in and say change or die. So all that to say, there were some that may have come on a little slower but they were still improving and that was the important thing. Food services and dietary were a little slower because they are 24 hours, they can never meet together, everybody is always preparing, lots of shifts coming on. It's just real difficult to get them together to talk about cultural change when you never see each other. On the other hand when they do get it down there are great successes, they are very process driven. All this stuff is process driven and they succeeded real well finally.

HH: In your opinion, in the whole acceptance thing when quality was first introduced, where do you think marketing fell in? Were they the first or last department to accept?

SK: I mentioned I wrote a paper on this, I was a marketing student myself. When I was a senior at the University of West Florida, and I was reading... and I wanted to know what was out there in marketing. I noticed a lot of marketing grads were like what are we going to do now. Do I do sales, planning, what discipline of marketing am I going to get into? I was more of a marketing purist. I didn't look at marketing as a promotional piece that a lot of people wanted to. Marketing to me was defining customer needs and designing products and services to meet those needs. So I wasn't sales oriented

although that's what we're all doing. We're all selling something. I didn't want to go off with a pharmaceutical company or something, that's sales. So anyway, I called around and was looking for an internship. I called the local HCA hospital and they didn't have an internship and I asked if they could create one and the marketing director said sure come on down. So I did a health care internship with HCA and that's what led to that job. When quality improvement came in and I went and got trained in that stuff as far as I was concerned, this was what marketing was all about. Marketing in its purest sense is finding out what customer's needs are, designing products and services to meet those needs, and offering them to them, and constantly redesigning them to meet their needs. Well, quality improvement is based a lot on Demming, and Demming 's cycle, plan, do, check, and act. And in that cycle you plan, I guess you could say in health care services, you can offer those services to the population to get their customer feedback, and then you design and redesign those services, and just keep going in that cycle. That's all marketing is. That is exactly what marketing is. So quality improvement and marketing go hand in hand. One of my objectives when I got with the hospital was, and this was actually vocalized to my administrator, was for me to work myself out of a job. And I told him that, and he agreed with that. I think it's ludicrous for somebody to be responsible for marketing in an organization. An organization should market itself. Marketing director, for example, doesn't affect his job. The whole organization markets itself. He may be responsible for caring out some task stuff, advertising, and planning, but out objective was to eliminate that title and department eventually, not me. And that's what happened. When I left they dissolved the marketing department and the functions of marketing were carried out in some other areas. It's now called customer relations. Now department managers are carrying it out on their own, and that was a result of quality improvement. They began to understand on a department level that they were responsible for identifying customer needs and meeting and exceeding those needs through process improvement, that's all marketing is. They were in effect designing their own products and services to meet consumer needs and that is exactly what marketing is. So I think the marketer in my opinion if I were teaching a college level one day, if I were in marketing I would say to learn everything you can about quality improvement because this fits hand in glove with marketing. It's perfect. And that would make the marketing people more ... they would probably be the most logical, difinitely the most logical people to carry this effort out. It should make sense to them. It should make a lot of sense.
FC: You said earlier that when you were all in the van and you made the commitment that many of the administrators were young. How did age play a factor in accepting a change of culture?
SK: Maybe someone who is older than I am would disagree with

me but I think there is probably a relationship between age and willingness to try something new. I think there is, now I know for a fact that there are several older administrators who bought this 100%. But I know in some of the obversations I have made, some of the older department just by nature of being in one department for a long, long time have developed ways that are, you know, they wanted to do things their way. So I think not having a lot of experience in developing your own work habits over years and years, it was easy for us. It made sense. I think the median age of our administrative team was maybe thirty, thirty-three. So that's a pretty young team. And our willingness to accept this was not real difficult. And also, three or four of us had studied a little bit of Demming in college. When I was in college they were starting to play around with this stuff. We obviously studied a lot of what Japan was doing in marketing. When we heard these names pop up, it was familiar to me so I thought, ooh, this is cool. I heard about this stuff when I was in school. So it was easier.. I hate to sound prejudice but I think there is a relationship.
FC: Well, even though the marketing department is dissolved now,
SK: As a term, as a function, yea.
FC: What kind of value did the marketing department put into the hospital?
SK: One thing, being the quality improvement coach, I had the quality effort in the department, which was marketing. Marketing feuled that whole effort because one, they are usually the database for the hospital. We were the customer research base, not the MIS database but we've got the customer surveys and all that kind of stuff. Well, that fed the quality effort because part of quality improvement is knowing the customer, you have got to have a lot of real solid customer research. And so those research tools... I already owned that process anyway, and that became part of the quality improvement process. And so being the customer database, that added a lot of value to the quality program. You'll find a lot of marketing departments in organizations spend a great deal of time acquiring customer data, and getting all this stuff, and then what they do is shelve it. They say, well we did well, or we didn't do well, and then put it back on the shelf. That is what we have always done. Every organization was the same. Quality improvement in the marketing department in that hospital began to use that stuff, I mean really use that stuff, I mean really dig into what is this data telling us? Those surveys were broken up into several sections. They measured data over time, they plotted customer comments everytime. In the back were a lot of other sections. One was verbatim comments, and they were any other comments that the customer wrote down. They were cross referenced. You knew on what page what one said this things. So you could tie those comments not to go back and say you guys blew it, to try to take those comments and tie

them to a process that we can improve. So we began analyzing what people said. We began looking at words and phrases that were common in customer responses and tried to tie those into processes we could improve. And in the demographic makeup which was the last section which was age, sex, insurance, those kind of things. And we would begin analyzing what kinds of people say what kinds of things about what kinds of processes. For marketing students who were in that discipline, statistic kind of stuff, they just ate that stuff up. I loved it. I really enjoyed studying customer data. So the department added a great deal of value in that sense. We began to really be functional in customer data research. And then the obvious stuff, the promotional stuff. Part of our job was to make this process fun, so we were involved in designing the courses, and involved in designing the layout of how we'd present this stuff, and they looked to the marketing department to make it fun. Demming says when he starts his seminars, although he doesn't always practise it, he says, anytime he does one of his seminars he puts up this overhead that says we're here to learn, to find joy in learning, to find joy in working, and to have fun. And so part of marketing's role was to make this stuff fun for people. And we did that. We provided a lot of value there. People can't get up for two days and hear statistics and quality improvement methodology all day that can be very dry, and walk away. There is a definite relationship between interesting and learning I think. And so we did that. The role of marketing is still in the hospital. That hasn't changed. What's changed is the focus of having someone or something responsible for marketing's organization. I think it should be spread out throughout the organization... So really the directors of marketing in the future in my opinion if I could redesign marketing, it would be leaders of top organization who value the marketing of themselves, and still help facilitate that whole effort. They wouldn't lose their job, they wouldn't be the only person.... It doesn't do much for the ego for anyone majoring in marketing, but it depends on whether you want to be a leader or manager. So other than that, I guess product, price, promotion, all that stuff, we still did all that stuff, we just looked at it differently. We looked at it from a quality perspective, and we were in part still responsible for trying to design services and things like that. The difference is a marketing grad that goes into this can help get it going in marketing if they were in part responsible for product design or new product development or service development, the discipline is just a little different. Now instead of going in and saying we need a new surgery wing, well a marketer of quality improvement knows a lot about the customers, and knows that meeting customer needs is not just offering the new thing. That's what American businesses have been good at, build a new building, buy a new piece of equipment, do something new and that will please them, and it will temporarily, but the marketer today I think is going to go in and look at what are the

processes involved in this organization and how do they affect the customer. How does improving those processes all the time make the system consistent so that people can come in an have a predictable experience, and then in studying that can see if new products and services fit for that customer. So it's kinda going upstream and not just jumping in and doing something new. And hospitals, banks, and retailers... but it makes sense.
HH: Just one more question...
SK: The director of marketing called me about a year ago and she said she was having a real problem grasping quality improvement because when she got back from her training somebody said begin work on quality improvement. Do some work in your department and report back to me, and it was just a joke that they even did that, but anyway. She called, she was freaking out. What do I do, how does this fit with marketing? What I deal with is media relations and promotional planning and all that stuff. I responded by telling her that although processes in marketing are less tangible, a lot of the time it's just communication. Communication in itself is a process, the way you deal with people, the way you deal with public relations in general. There's a process that you go through improving those processes making them predictable and consistent and relatively easy to work with. That's quality improvement. It's real hard for just general marketing people to figure out how process improvement fits with marketing, because it's process driven, at least I should say that those who follow Demming's approach it's process driven. And marketing people do have a tough time grasping that. But if they really do study it in marketing they will get in to that business of understanding customer needs. Real marketing people, that's what they are into this for anyway. I think it's probably the people who just go into sales and that commerical vein of marketing who are having the toughest time with this. Those who like to study and find out about things like that they don't have a problem with this. And I think you do probably, y'all are at UT right, I don't know, every program has got it's own characteristics. Some marketing programs in colleges are real promotional advertising public relations oriented. Others are management planning. I don't know what UT's is, but the one's that are strictly geared to sales and public speaking and communications and stuff, this is going to be a little tougher for them to grasp because you don't get a chance to study the planning component of it. West Florida's marketing/communications program kinda dealt with.... But this is also your marketing people tend to be pretty expressive. They tend to be very high-energy, creative people a lot of times. Some of this stuff is pretty dry and it's pretty, there's a lot of theory involved. And not all marketing people get into.... I was that way. I was just fortunate enough to get exposed to the planning components of it, so it was a little easier. So marketing does have a tough time with it. If they study quality improvement totally, they'll see that this makes perfect sense. I think any person

who have done a lot of work in forming the whole marketing culture are the people who eat this stuff up. Or they should. If I were you I'd be headstrong in studying quality improvement. Whatever term you use to describe it with, I'd know this stuff, because it's not going to be long before ... I know at Gulf coast for a number of different management positions in the ads that went across the country, that became a part of the ad, familiarity with TQM. I mean that was part of what we expected people to turn in, and that's pretty scary for people that don't understand it.... being able to talk that language... because it is taking on fast. In the last three years organizations have gone ballistic with this stuff, and some of them for the right reasons, to improve, and some of them for the wrong reasons are that this is a very fashionable thing right now. I'm looking forward to when this is no longer fashionable. I'm looking forward to when it is just a way of life in health care and everywhere else. That's why I'm here and not there. I loved it there, I loved my job, but I wanted to be a part of this...

HOSPITALWIDE QUALITY TECHNOLOGY NETWORK

A Low-Cost Accelerator of Organizational Change and Continuous Quality Improvement

Quality Resource Group
Hospital Corporation of America

Supporting Material

HCA Hospital Corporation of America

© 1991 by Hospital Corporation of America, Nashville Tennessee

FOCUS-PDCA is a registered servicemark of Hospital Corporation of America

The Quality Resource Group at Hospital Corporation of America believes ideas and materials should be shared. In this spirit, permission to use this copyright material is hereby granted to any hospital or health care organization initiating the Hospitalwide Quality Improvement Process. Identifying the Quality Resource Group as the source of this information would be appreciated.

Published by Hospital Corporation of America, Quality Resource Group
One Park Plaza, Nashville, Tennessee 37203

Printed in the United States of America

Contents

A Brief History of HQTN 1

A Common Roadmap
for Organizational Transformation 2

A Common Language for Improvement:
FOCUS-PDCA 12

A Common Language for Improvement:
Storytelling 17

Glossary 23

© 1991 Hospital Corporation of America

A Brief History of the HQTN

The Hospitalwide Quality Technology Network was organized by the Quality Resource Group at Hospital Corporation of America in September 1988 for hospital leaders initiating the Hospitalwide Quality Improvement Process. The first network of its kind in the health care industry, the HQTN was designed to bring together hospital leaders so they could learn from each other about initiating continuous quality improvement.

The network meets three times a year and is attended by CEOs and Quality Coaches from HQIP hospitals. The participants primarily include leaders from HCA hospitals, along with leaders from health care organizations under contract to the Quality Resource Group for assistance in their QI transformations and from hospitals engaged in HQIP that are affiliated with Quorum Health Resources Inc. and Executive Learning Inc.

The aim of the network is:

> *The Hospitalwide Quality Technology Network accelerates the transformation of organizations initiating hospitalwide quality improvement by:*
>
> - *Providing low-cost learning opportunities in which ideas, concerns, and lessons learned are shared.*
> - *Fostering new knowledge about the process of transformation.*
> - *Systematically helping participants achieve deeper levels of knowledge about continuous quality improvement.*
> - *Providing an informal atmosphere for personal networking by individuals in volved in tranforming their organizations.*

Networking is invaluable as a low-cost learning strategy, an accelerator of the hospitalwide quality improvement effort, a therapy session for weary leaders, and a means to celebrate the gains being made.

A key to the success of the HQTN is the fact that all organizations represented at the network meetings use a common roadmap for organizational transformation and a common language for improvement, specifically the FOCUS-PDCA strategy for improvement and Quality Improvement Storytelling.

© 1991 Hospital Corporation of America

A Common Roadmap for Organizational Transformation

The *Roadmap for Change* is a common thread running through all organizations undergoing the transformation to hospitalwide quality improvement. The roadmap included on the following pages was developed as a model for that change, and each hospital is encouraged to adapt the basic model according to its own organizational needs.

While some portions of the roadmap need not be followed in the specific order listed here, all of its elements are important to the transformation and are drawn from the experiences of hospitals with several years experience in the organizational change necessary for continuous quality improvement.

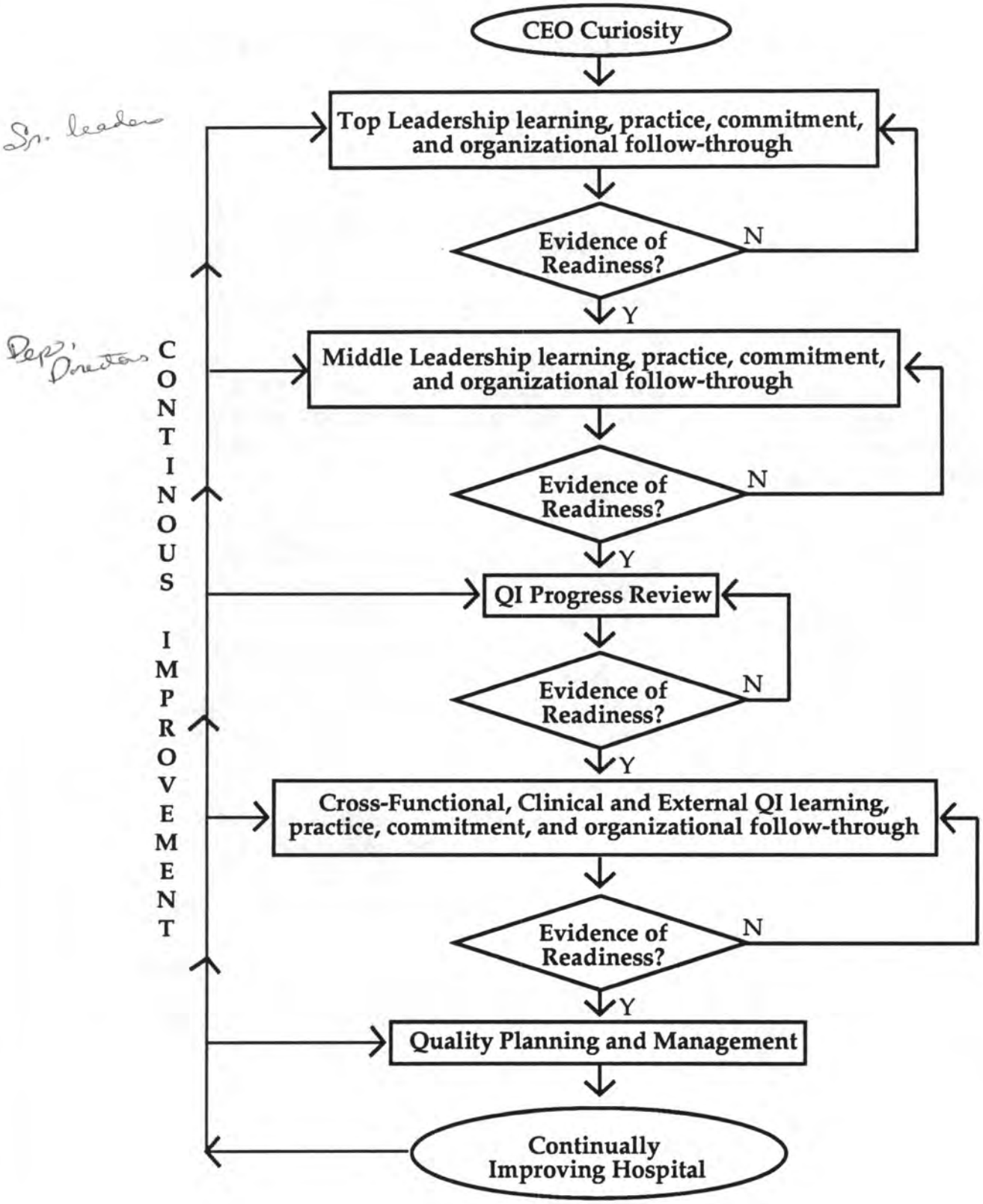
The roadmap begins with the curiosity and involvement of the organization's top leader and is based on understanding the hospital as a system, including a clear vision and mission, a simple quality definition, and management guidelines aligned with QI principles. The roadmap systematically moves from top leadership to middle leadership to all employees. It is driven by creating knowledge of customers, processes, and organizational policy, and by the proper use of statistical thinking. Although the roadmap is designed to help hospitals grow their own resources internally, top leaders are linked to an outside mentor, a highly skilled HQIP professional with extensive training and experience.

The roadmap should not be seen as a step-by-step, or cookbook, approach to becoming an organization managed with continuous quality improvement tools and techniques. Rather, it should be viewed as a guide for leaders of health care organizations to use as they systematically involve their entire organization in the transformation to hospitalwide quality improvement.

The transformation process requires thoughtful and anticipatory leadership. Starting simple, practicing often, and seeking deeper knowledge will build a strong quality culture.

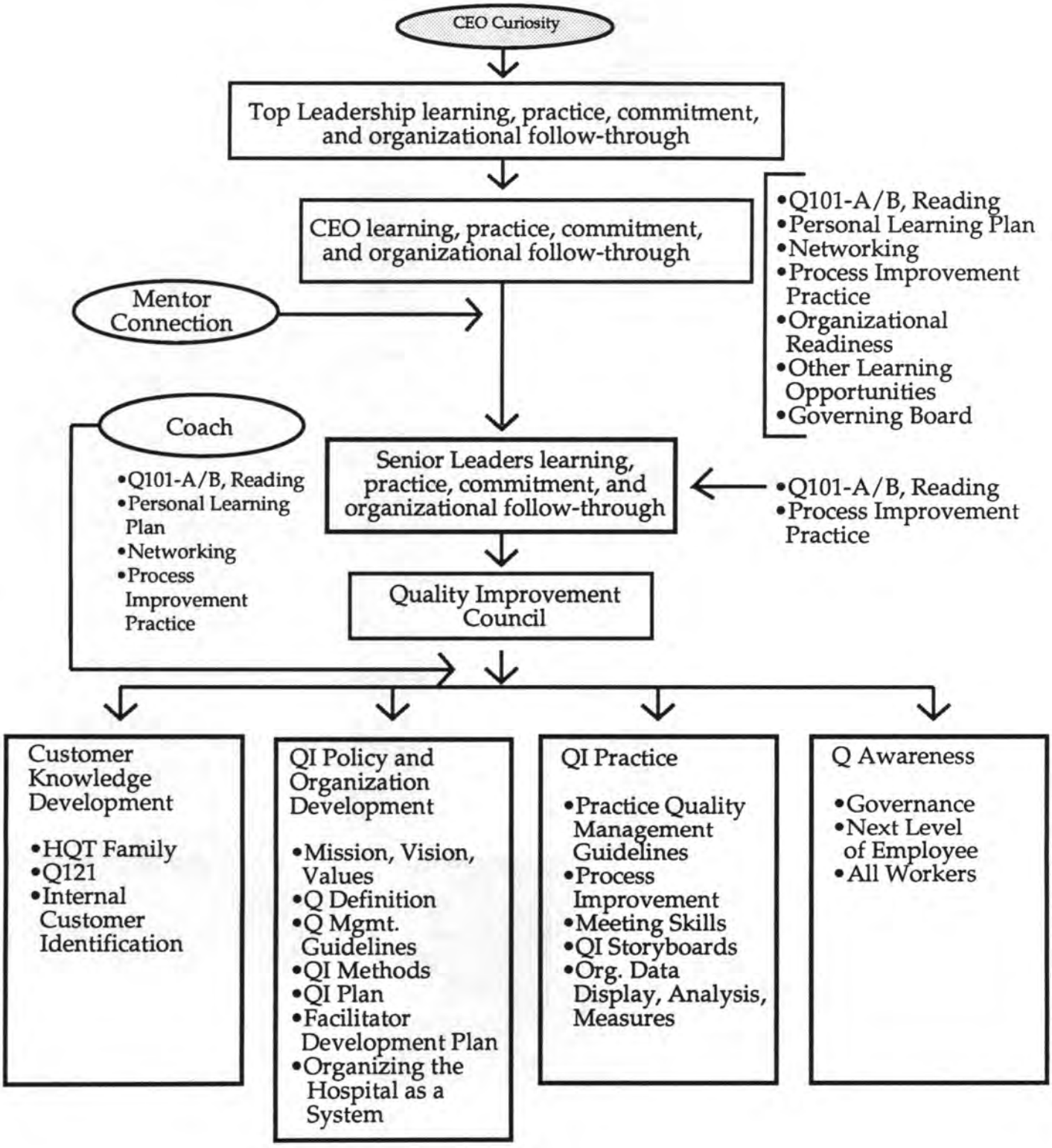
© 1991 Hospital Corporation of America

HQIP Roadmap: Overview



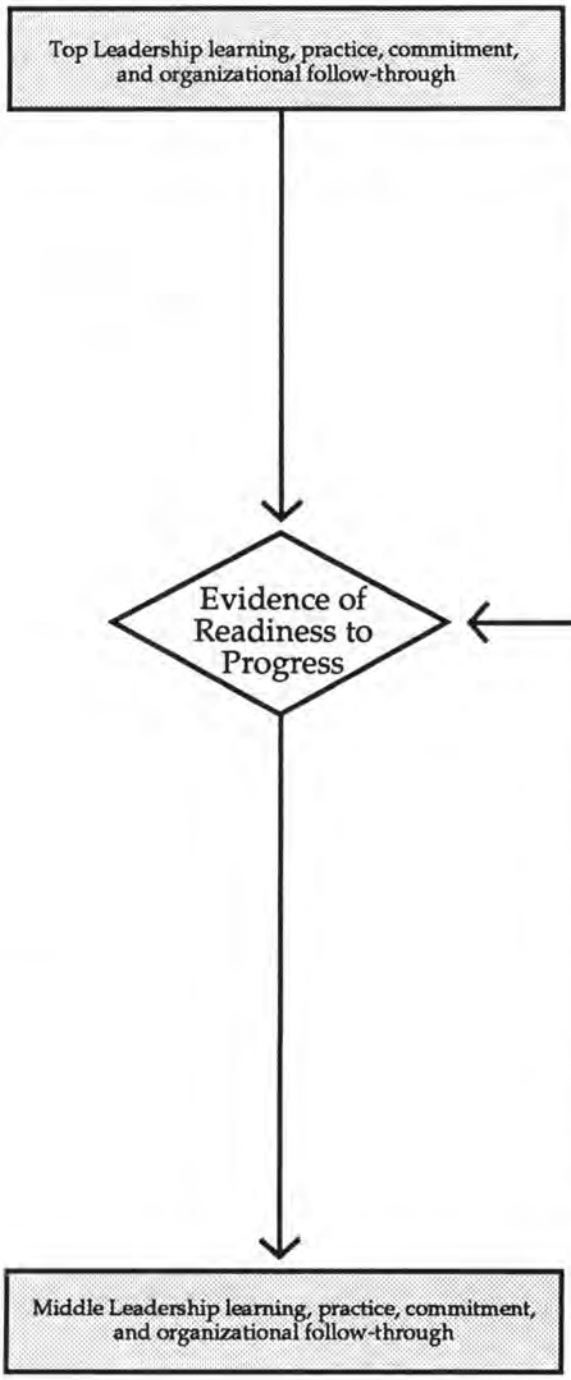
© 1991 Hospital Corporation of America

HQIP Roadmap: Top Leadership



© 1991 Hospital Corporation of America

HQIP Roadmap: Top Leadership — Illustrative Evidences

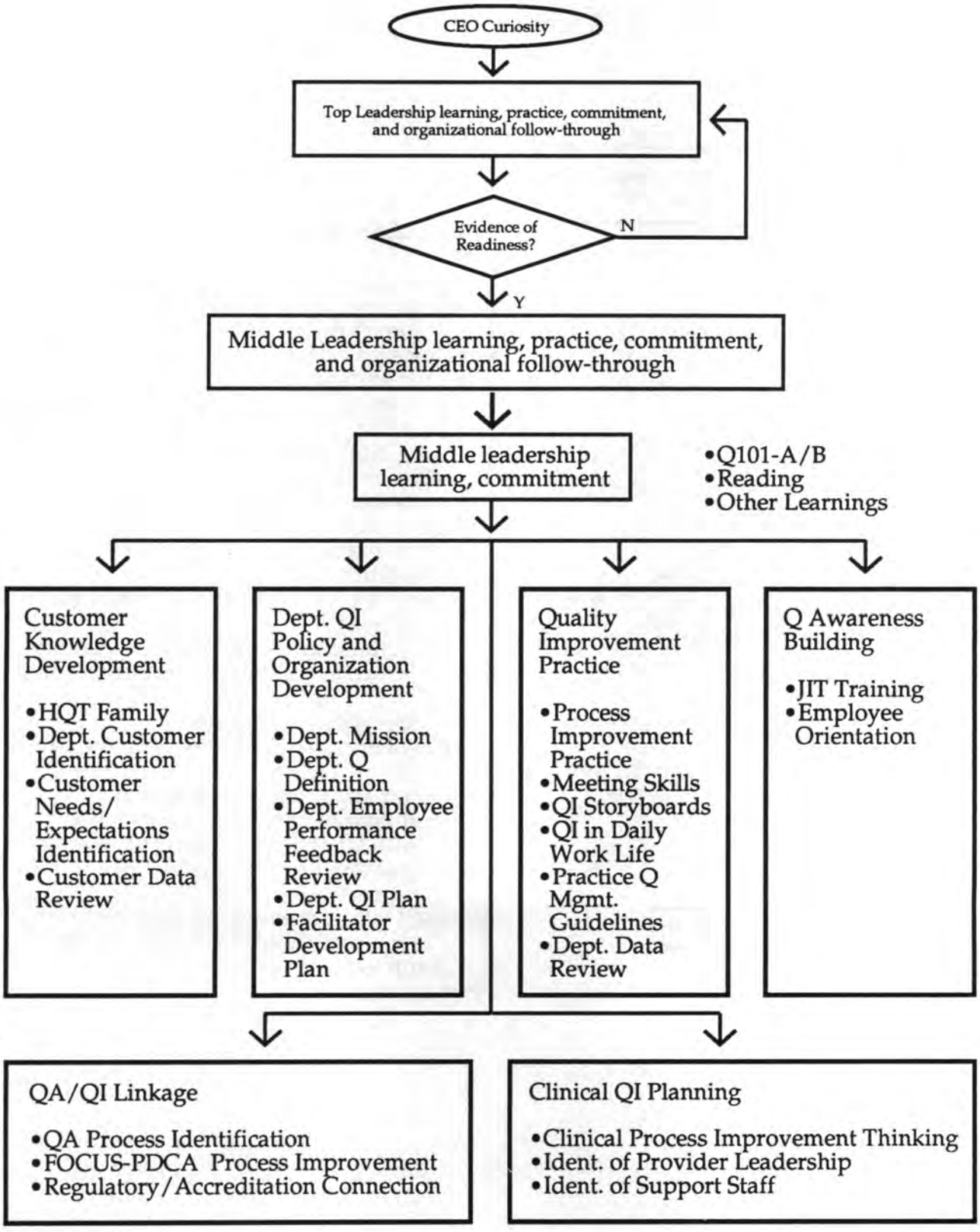


Illustrative Evidences

- Completion and communication of the QI policy
- Completion of the organizational QI plan draft
- Practice work on a specific process improvement effort, including use of QI Storyboard
- Identification of QI methods for use in chartering, monitoring, and facilitating teams
- Use of meeting skills on a regular basis, with evidence that more effective work is being done
- A clear charter for the QIC
- Practice statistical thinking arraying commonly used top organizational data using new graphical display tools
- Practice involving use of the Q mgmt. guidelines
- Quality awareness work initiated with governing board and next tier of employees
- Networking with other CEOs and Coaches in health care settings
- Networking with top leadership in other companies and industries
- Personal learning plans secure for CEO, Coach, and other senior leaders
- Identification of coach, learning plan for coach and significant accomplishments related thereto
- Customer knowledge building using HQT Family
- Personal stories about process improvement by senior leadership
- Participation in other on-site learning opportunities by CEO, Coach, and other senior leaders
- Facilitator development under way
- Overview of Organizing the Hospital as a System
- Clear organizationwide measures of improvement success

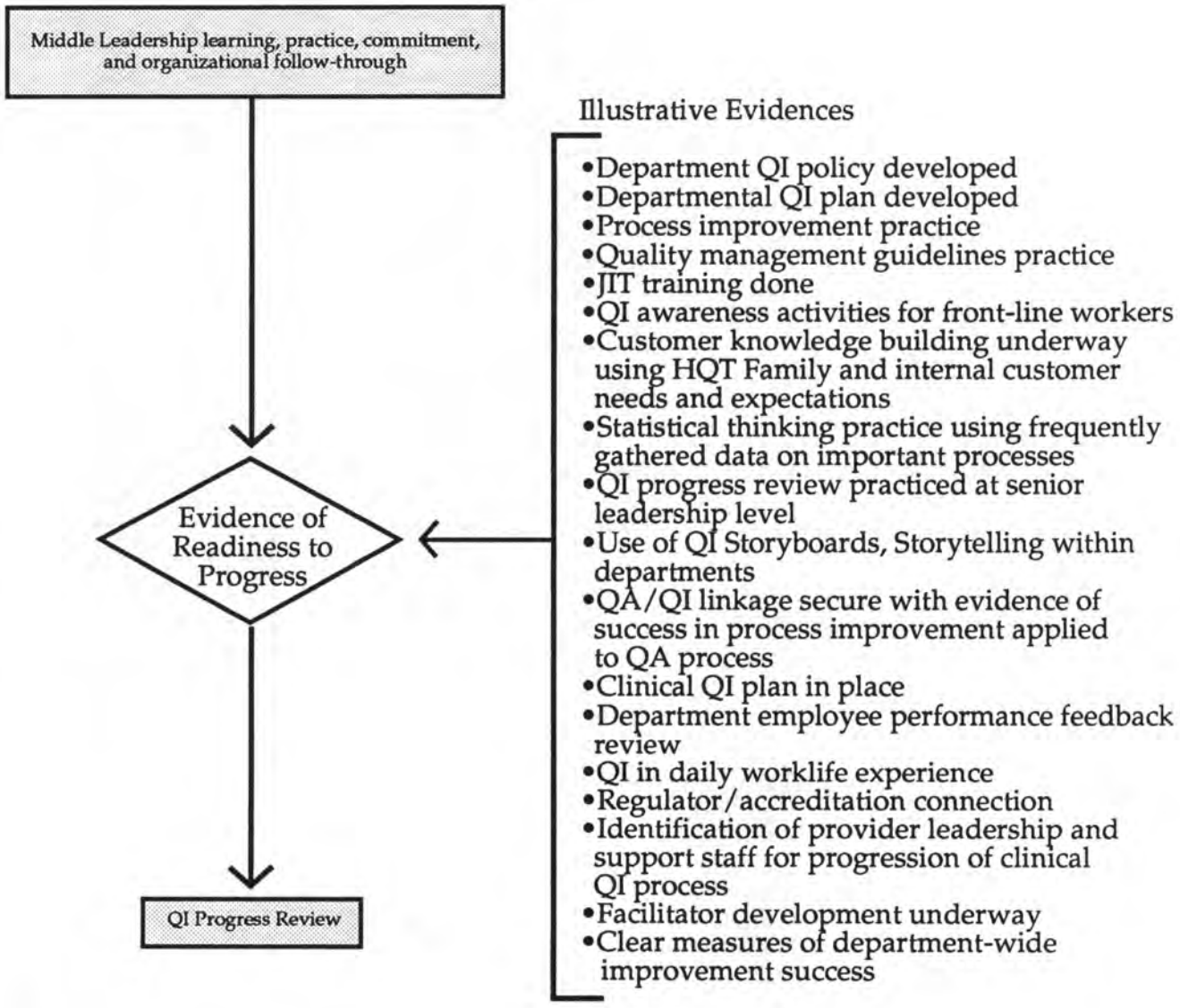
© 1991 Hospital Corporation of America

HQIP Roadmap: Middle Leadership



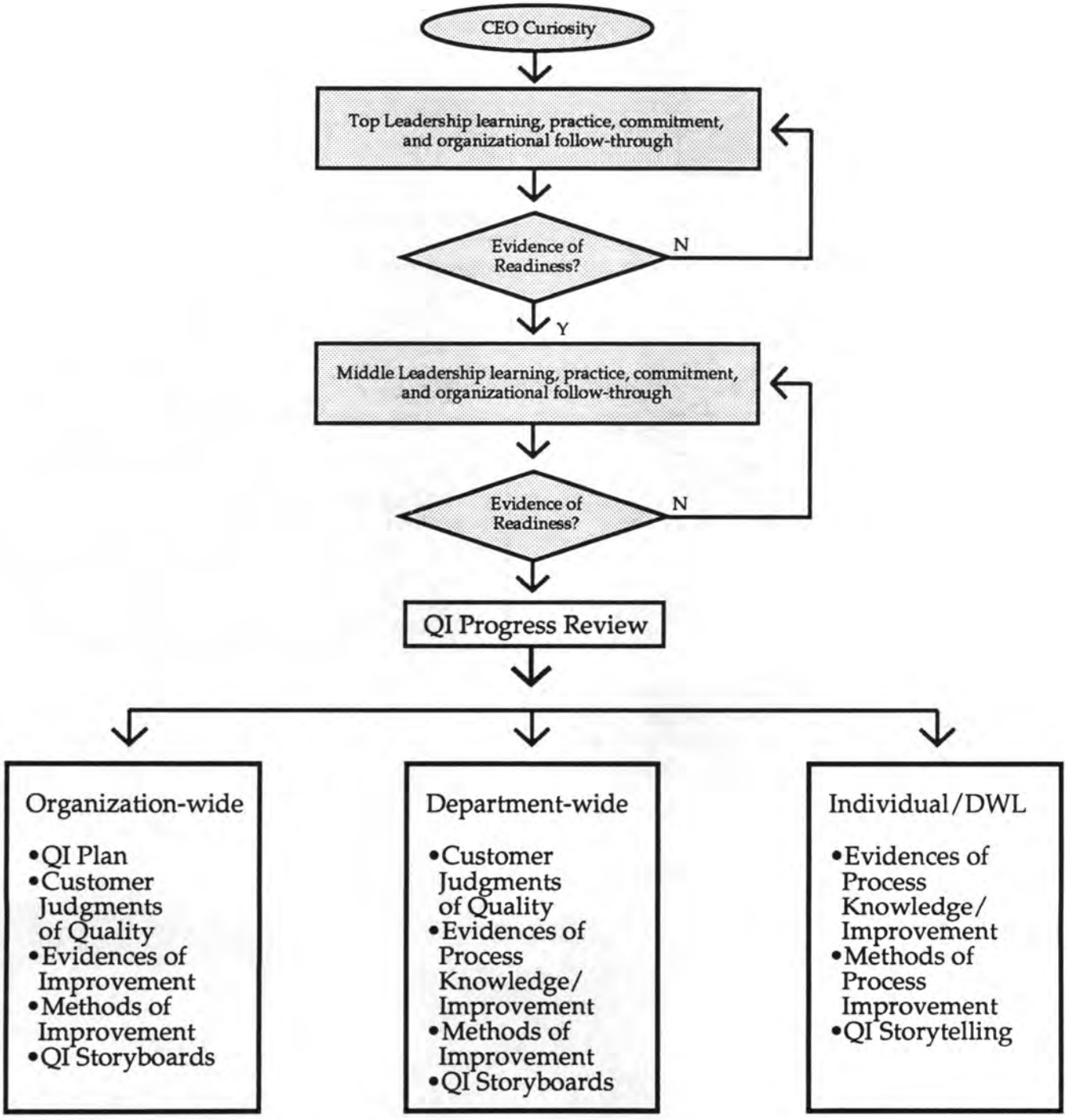
© 1991 Hospital Corporation of America

HQIP Roadmap: Middle Leadership — Illustrative Evidences



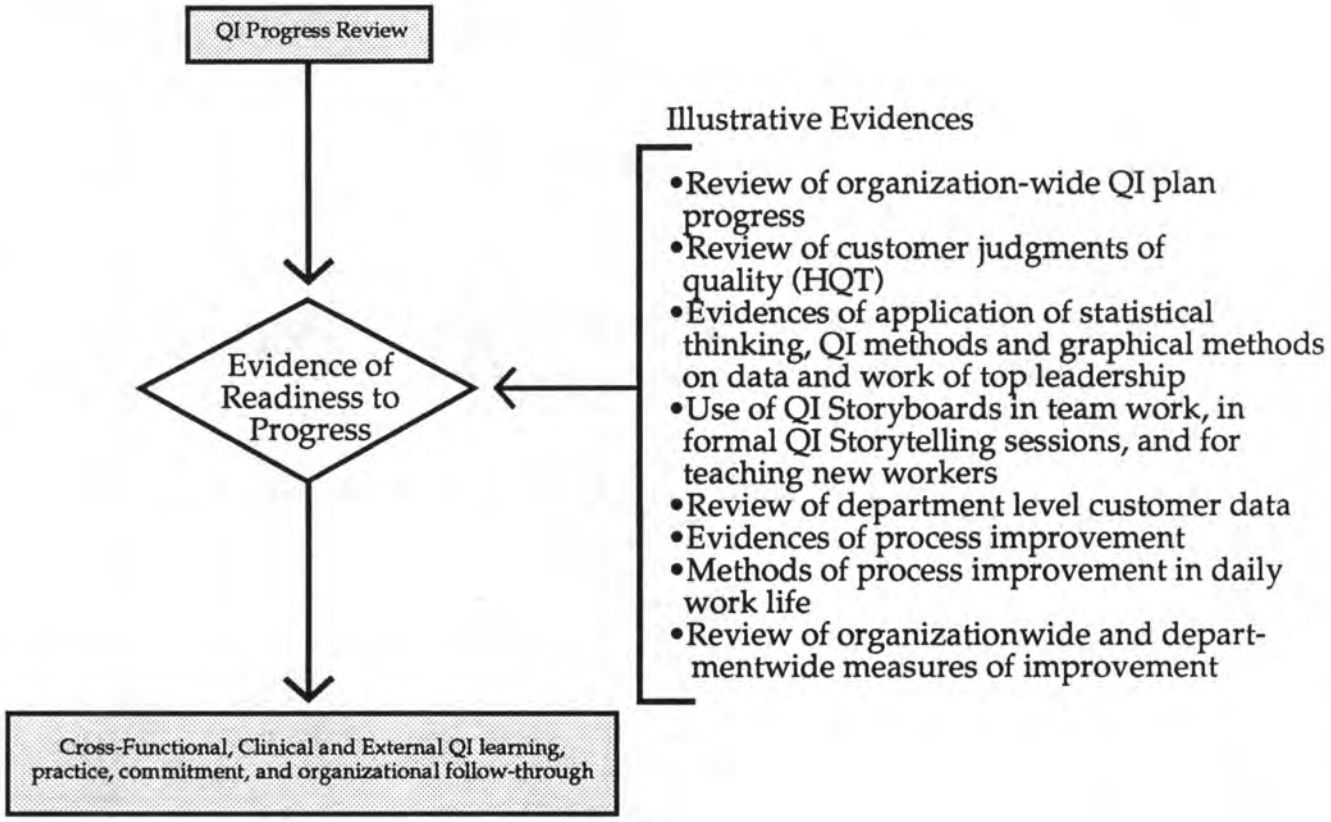
© 1991 Hospital Corporation of America

HQIP Roadmap: QI Progress Review



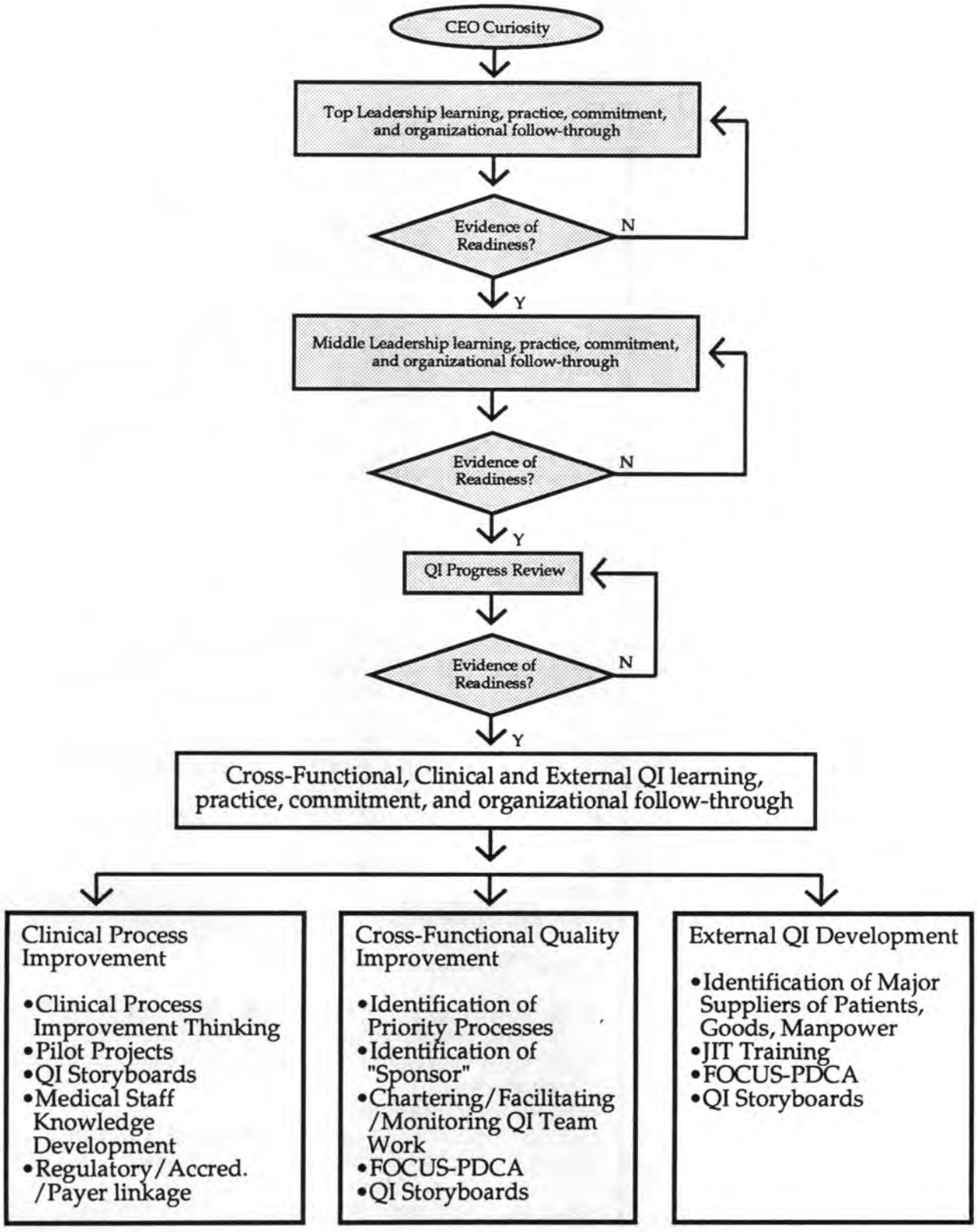
© 1991 Hospital Corporation of America

HQIP Roadmap: QI Progress Review — Illustrative Evidences



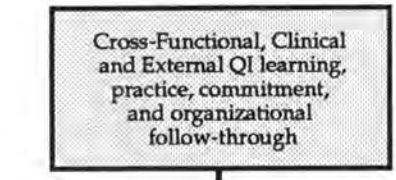
© 1991 Hospital Corporation of America

HQIP Roadmap: Cross-functional Clinical and External QI

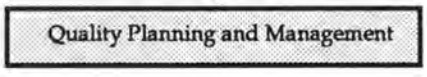


© 1991 Hospital Corporation of America

HQIP Roadmap:
Cross-functional, Clinical and External QI — Illustrative Evidences







Illustrative Evidences

Clinical

- Evidence of process thinking applied to a clinical process
- Systematic use of one of the suggested methods of clinical process improvement
- Identification of support infrastructure to support physician and other clinician involvement
- Identification and practice by curious physicians of systematic process improvement thinking
- Demonstrated use of QI Storyboards to illustrate thought
- Plan for physician education that is related to and built upon the successful elements of the "pilot" educational efforts with early adopters found within the medical staff
- Evidence of link to regulatory and accreditation efforts to minimize duplicative work

Cross-Functional

- Evidence of selection process for choosing the first priority processes
- Evidence of process to monitor and facilitate the work of teams that cross traditional organizational lines
- Evidence of method to link the external customers of the hospital to the methods of process improvement prioritization
- Methods for JIT training of new team members
- Method for ensuring that process knowledgeable people (individuals who have participated in functional improvement efforts) are involved
- Evidence that clear planning precedes the formation of group efforts
- Evidence of use of QI Storyboards and formalized QI Storytelling
- Evidence of use of sponsors

External QI Development

- Evidence of method for the identification of major suppliers of patients, human resources, and goods and supplies
- Evidence of method for the identification and prioritization of processes
- Method for JIT training
- Method for chartering and monitoring and facilitating jointly conducted QI efforts
- Evidence of use of QI Storyboards
- Evidence of improvements made

© 1991 Hospital Corporation of America

A Common Language for Improvement: FOCUS-PDCA

Health care organizations engaged in the Hospitalwide Quality Improvement Process generally use the FOCUS-PDCA stretegy for improvement as a common language for their improvement activities.

FOCUS-PDCA is an effort to help health care professionals use the Cycle for Continuous Improvement — originated by Walter Shewhart and later enriched by W. Edwards Deming — to improve processes. FOCUS-PDCA is an acronym meaning: **F**ind a process to improve, **O**rganize a team that knows the process, **C**larify current knowledge of the process, **U**nderstand sources of process variation, **S**elect the process improvement, **P**lan the improvement and continued data collection, **D**o the improvement and continued data collection, **C**heck and study the results, and **A**ct to hold the gain and to continue to improve the process.

Although the Shewhart-Deming PDCA cycle is described formally as the last four of the nine-phase strategy for improvement, mini-PDCA cycles can occur and often do occur in each of the phases, especially in "Clarify" and "Understand."

Following the graphical overview of the FOCUS-PDCA strategy on the next page is a series of questions to consider when working through each phase. A tree diagram on the last page of this section shows how FOCUS-PDCA fits into the overall scheme of introductory quality improvement education.

© 1991 Hospital Corporation of America

FOCUS-PDCA

Find a Process to Improve

↓

Organize a Team That Knows the Process

↓

Clarify Current Knowledge of the Process 

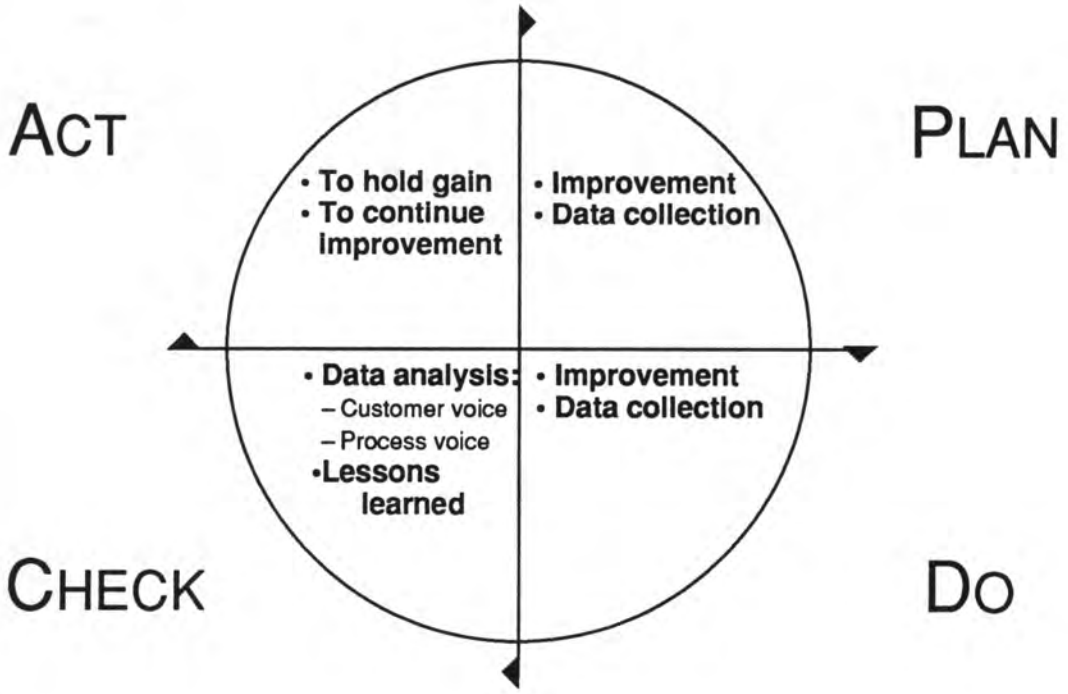
↓

Understand Sources of Process Variation 

↓

Select the Process Improvement

↓



© 1991 Hospital Corporation of America

FIND A PROCESS TO IMPROVE

- Who is the customer?
- What is the name of the process?
- What are the process boundaries?
- Is there a clearly written opportunity statement?
- Who will benefit from the improvement?
- How is the process tied to the hospital as a system and its priorities?

ORGANIZE A TEAM THAT KNOWS THE PROCESS

- How big is the team?
- Do the members represent people who work in the process or did the "organizational chart" show up?
- Does the team's knowledge of the process align with the boundaries in the opportunity statement?
- Is there a Roadmap to chart the anticipated progress of the team?

CLARIFY CURRENT KNOWLEDGE OF THE PROCESS

- Is the "actual" flow of the process documented rather than some perceived flow?
- Can quick and easy improvements be made in the "C" phase using PDCA?
- Is there agreement on a best method as represented by a single flow diagram?
- Is the process presented at a level of detail that identifies possible causes of variation?
- Do the boundaries of the flow diagram align with the opportunity statement and the team?

UNDERSTAND SOURCES OF PROCESS VARIATION

- How should the team identify the Key Quality Characteristic (KQC) and potential Key Process Variables (KPVs)? Are the potential KPVs specific, measurable, and controlable?
- What are the operational definitions for the KQC and the potential KPVs?
- What is the data collection plan? Is it clear how the data will be collected? Who will collect it?
- Does the team understand how long it will take to collect enough data to make a decision?
- How does the performance of the process vary over time?
- Do the data collected on the KQC and potential KPVs indicate the presence of any special causes of variation in the process? If so, how should they be resolved by the team?
- Can the team show a relationship between the KQC and the KPV?

SELECT THE PROCESS IMPROVEMENT

- How is the potential improvement selected?
- What are the data or other evidence to support the selection?
- What is the criteria for deciding which improvement to select?

© 1991 Hospital Corporation of America

PLAN THE IMPROVEMENT AND CONTINUED DATA COLLECTION

- What is the plan for piloting the improvement and collecting data?
- Does the pilot plan indicate dates, communications, and ownership of specific steps?
- What training is necessary?

DO THE IMPROVEMENT, DATA COLLECTION, AND ANALYSIS

- When the plan for change is executed, are there any surprises? If so, why did they occur and what, if anything, can the team do about them?

CHECK AND STUDY THE RESULTS

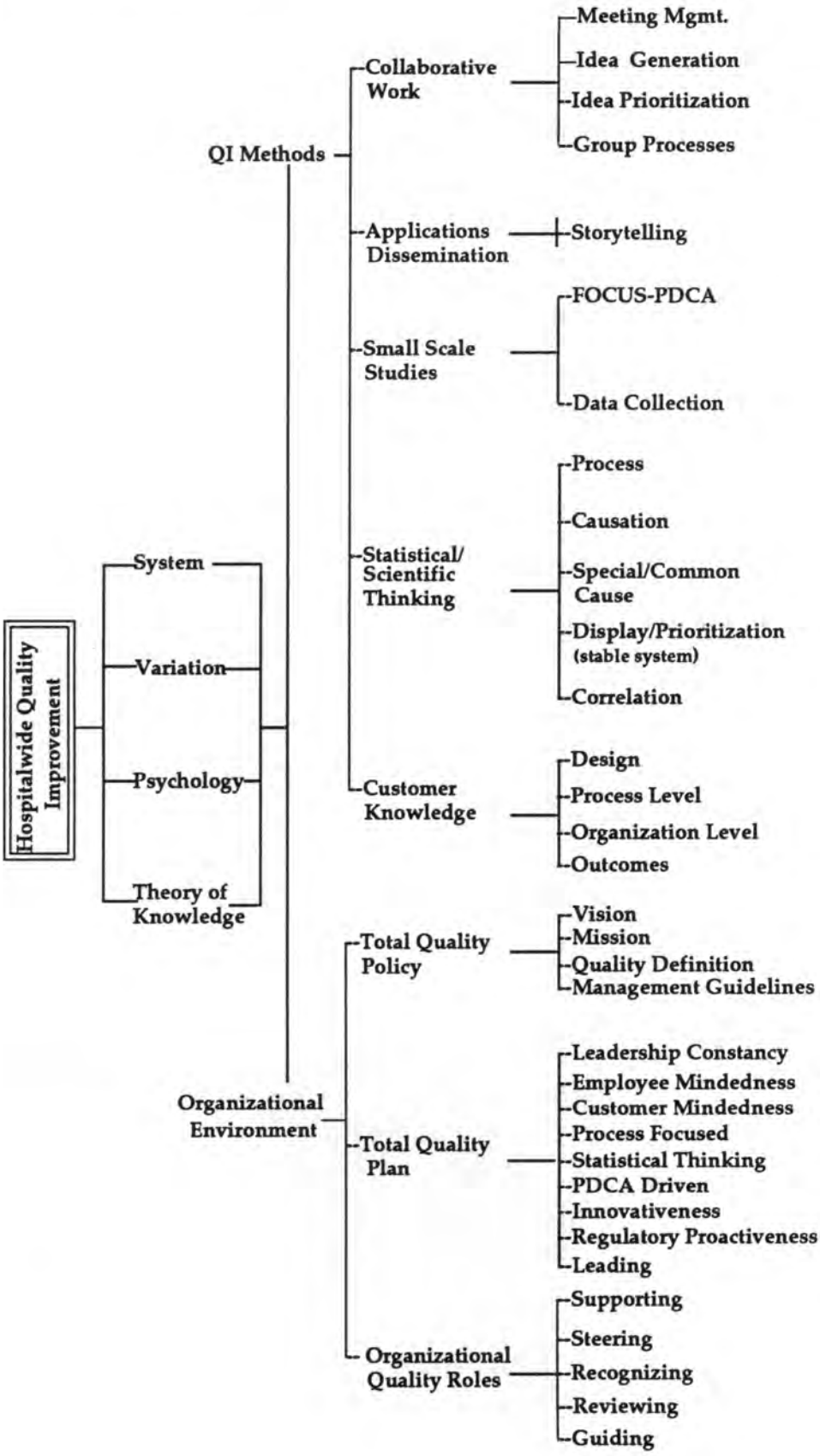
- Do the data on the run chart suggest that the process changed?
- How does the data change?
- Does the team know anything that helps explain any evident change?
- Is the team comfortable that enough data are present to support an action?
- If the team is not comfortable with the amount of data or the knowledge provided by the data, what is the plan for obtaining more?

ACT TO HOLD THE GAIN AND TO CONTINUE TO IMPROVE THE PROCESS

- How should the team act to implement the process improvement beyond the pilot? Or should the team act to discard the planned improvement because the process was not improved?
- Can the team find another potential improvement within this process?
- What does the team learn from the effort?

© 1991 Hospital Corporation of America

Elements of Introductory Education



© 1991 Hospital Corporation of America

A Common Language for Improvement: Storytelling

Storytelling always has been a powerful method of learning. Organized Quality Improvement Storytelling is a disciplined method both of learning and teaching.

What Is QI Storytelling?

QI Storytelling is an organized way of relating the quality improvement progress made by a group of people who are working together in a disciplined fashion.

Listeners may be completely unfamiliar with the process under discussion, but with the help of QI Storyboards and QI Storybooks, the storytelling session can advance their understanding. The key is to tell the story in a fashion that permits listeners to grasp the thinking of the group and to understand the specific applications of the common tools of quality improvement, of customer knowledge, and of statistical thinking made by the group members.

Who Started QI Storytelling?

Early on, Kaoru Ishikawa called attention to the importance of telling quality improvement stories in a disciplined manner to facilitate learning and the progression of the organizationwide quality improvement process.[1] Masao Nemoto outlined elaborate rules for the roles of commentators in QI Storytelling.[2] Florida Power & Light has demonstrated the utility of this approach in its Deming Prize-winning efforts to improve the quality of its work.[3] More recently, Hitoshi Kume and Howard Gitlow and others have documented the importance of the process.[4] Simply put: the precedents are well established.

Who Benefits from QI Storytelling?

In truth, there are very few people who do not benefit from learning in a clear, concise manner how a quality improvement effort proceeded.

The Presenter: By organizing a succinct presentation which documents the accomplishments of several people working together over an extended period of time, the presenter learns to focus presentation skills and gets practice in sharing the pride that comes from working on the processes within which he or she labors.

© 1991 Hospital Corporation of America

THE QI TEAM: By assisting the presenter in sharpening the presentation of their work, team members often learn and crystallize their thinking about the process of improvement. In addition, the team learns to keep track of its work in succinct and well-focused methods — thus facilitating communication while reducing the accumulation of idle paper. By attending the presentation of the QI Story, team members are able to receive the public recognition they are due and are also able to learn how they might perform even better.

THE DEPARTMENT HEADS: By listening to the organized application of systematic methods for process improvement to widely varying processes throughout the hospital, department heads learn how they might think in new ways about their work and the improvement of the systems they manage. Questioning each other helps create a clearer awareness of how much people can learn from their colleagues.

THE QUALITY IMPROVEMENT COUNCIL: By carefully reviewing the work of QI teams through this process of disciplined QI Storytelling, the Quality Improvement Council can continuously update its knowledge of the improvement activities at work in the hospital. New areas of desired learning can be uncovered. New resources for the progression of the QI process within the hospital can be uncovered by the widespread opportunities for employee visibility that this process provides.

THE CEO: By studying the application of systematic thinking to processes and their improvement, the CEO will learn a great deal about the hospital that was not previously known to him or her. Understanding the improvement process well enough to provide the deserved recognition and the encouragement to do "just a little bit more" allows the CEO to clearly lead and teach the process of management and improvement throughout the hospital. In addition, it provides a regular opportunity for the CEO to lead the celebration of gains made in the continuing journey of quality improvement.

THE OTHER EMPLOYEES: By observing the methods teams use, other employees have an opportunity for "low cost learning" that permits more easily disseminated knowledge throughout the hospital. Such a session provides an outstanding forum for introducing new employees to what the process of continuous improvement is all about.

GUESTS: By observing a regularly held QI Storytelling session, guests, suppliers, and other students of the process can learn without imposing a significant additional burden for presentations on hospital staff.

THE HOSPITAL: By regularly reviewing the methods by which the improvement of processes is occurring, the whole hospital learns the habit of making improvements in all that is done. The dominant culture of the hospital becomes one of continuous improvement in every facet of the hospital's life.

In short, many learn and many benefit. Whole organizations learn together under the leadership of their own leaders. The process itself serves as a major accelerator of the process of hospitalwide quality improvement.

© 1991 Hospital Corporation of America

What Are the Keys to the Success of the Storytelling Process?

- Organizing the individual stories well.

- Telling the stories in a structured and timely way.

- Providing feedback by the CEO to the presenter and the QI team on the strengths and on the areas where a little more effort would be desirable.

- Structuring the process frequently enough so that it does not become a burden for presentation and can become part of the "regular way of life."

- Linking all of this to the mission and purposes of the hospital and its quality policies, thereby fostering the alignment of all that is done in the hospital with its intentions as an organization.

- Providing genuine opportunities to celebrate the improvement efforts of the many people working together for better service.

- Regularly improving the QI Storytelling process itself through feedback from the participants and the customers of the process.

- Having fun at it.

In summary, the process of QI Storytelling is well established and very successfully used in other organizations and industries. By systematically adapting those insights to our needs in hospitals and health care organizations, we can experience similar gains.

Creating QI Storyboards

What is the purpose of QI Storyboards?

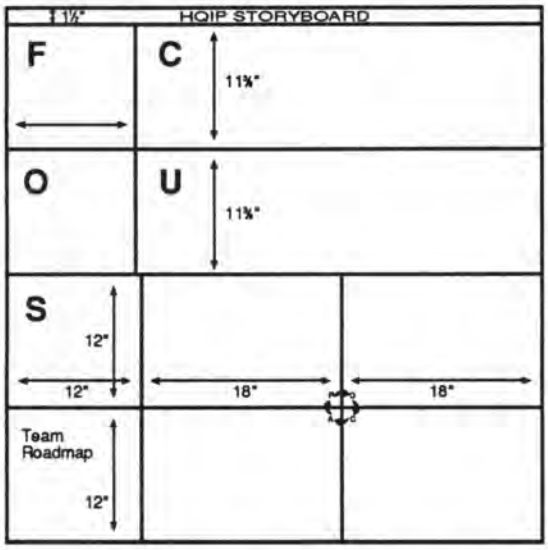
QI Storyboards are intended to help members of Quality Improvement Teams organize their work so they can perform well together and so others may learn from their efforts. Storyboards are designed to publicly present a team's work, both at formal group presentations and in work areas of the hospital or health care organization. By reducing the variation in how teams present their work, the learning focus can be on the content rather than a particular presentation style or method.

Primary customers of Storyboards are team members, co-workers, physicians, and any others who may want to learn how quality is being continuously improved in a systematic way. Storyboards should be simple and attractive, using pictures and graphics to focus on the salient points disclosed as the team progresses through the FOCUS-PDCA strategy for improvement.

© 1991 Hospital Corporation of America

WHAT DOES A QI STORYBOARD LOOK LIKE?

Hospitals and health care organizations with experience using Storyboards have explored various sizes and layouts. Typically, the Storyboards are about four feet square, which allows adequate space for displaying information associated with all phases in the FOCUS-PDCA strategy. The "C" and "U" phases usually are given more space because teams often generate more knowledge about the process being improved while working in those phases.



Example of Storyboard Layout

Storyboards can be constructed using a variety of materials. Primary concerns when selecting the material should be its durability and portability. Storyboards should be made to be re-used many times as various teams complete their work. The Storyboards should be transportable within the hospital at the very least. Leaders at one hospital designed a Storyboard made of cloth that can be folded and placed in a briefcase for presentations outside the hospital.

Storyboards are the team's "working minutes." The activities of each team meeting should be displayed on them, and Post-It notes can be used to show assignments for team members and activities to be achieved between meetings. After each phase in the FOCUS-PDCA strategy is completed, information to be displayed in that area of the Storyboard should be reassembled in an orderly, coherent fashion.

A specific team member, perhaps the recorder, should be assigned the responsibility for updating the Storyboard immediately after each team meeting.

© 1991 Hospital Corporation of America

How Are Roadmaps Used on a QI Storyboard?

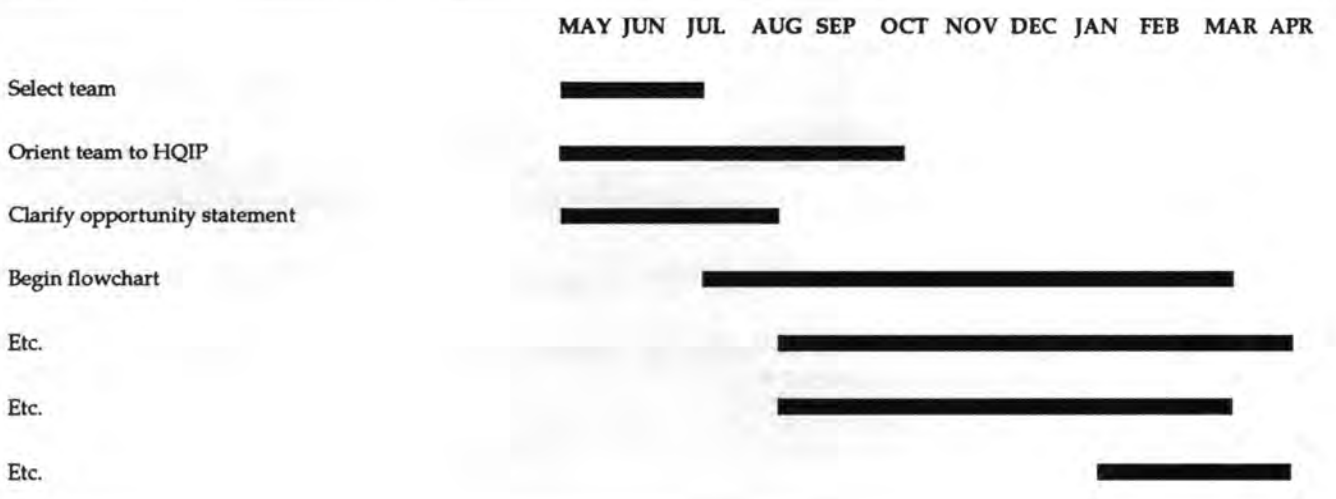
Storyboards should include a Roadmap for the team. When a team meets for the first time, members are often unclear about what is expected of them. They may be overwhelmed by the complexity of the proposed process improvement, the meeting process, or the FOCUS-PDCA strategy for improvement. It is helpful for team members to establish a Roadmap of what will be expected during the coming weeks and months.

The Team Leader, along with the Coach or facilitator, should discuss the team's work schedule before the team begins the mapping procedure. List actions on the vertical axis of the Roadmap and time on the horizontal axis. The Team Leader should know whether the time needs to be measured in weeks or months.

The Roadmap is not designed to be an action plan to be followed strictly. It is simply a method of allowing the team to see light at the end of the tunnel.

Actions placed on the Roadmap should be developed by following the FOCUS-PDCA steps. By taking the team through each step, the Team Leader can ascertain what actions team members feel may be required and how long the actions might take to accomplish.

Beginning with the first action, use a line to plot the estimated time along the horizontal axis. Many of the actions may overlap. Do not attempt to include everything the team might do. Just consider the Roadmap a brief overview of the proposed process improvement activity.



Example of aTeam Roadmap

© 1991 Hospital Corporation of America

What Information Should Be Displayed on a Storyboard?

As a team works through the FOCUS-PDCA strategy by answering the questions associated with each phase, team members will have the information necessary to create a Storyboard. Information placed on the Storyboard should answer the questions posed in the FOCUS-PDCA section of this book.

Creating QI Storybooks

What Is the Purpose of a QI Storybook?

QI Storybooks are designed to complement QI Storyboards. Unlike the Storyboard which is the team's "working minutes," Storybooks form a complete and permanent record of the team's actions and achievements. While the Team Leader and CEO are prime beneficiaries, Storybooks also can be duplicated and used for handouts when a team makes a public presentation.

Storybooks, like Storyboards, help teams organize their work so others can learn more readily. And like Storyboards, they allow the learning to be focused on the content rather than on variations in storytelling style.

What Is the Layout and Design of a QI Storybook?

Storybooks should follow the FOCUS-PDCA strategy for improvement and be written in a simple style to reduce the chance that readers might be confused by the process improvement description.

The Team Leader is responsible for updating the Storybook following each team meeting. Storybooks should include all the data generated by the team. Leaders at one hospital are even asking teams to include all data generated from brainstorming sessions so a record will exist that may some day help another team involved in the Hospitalwide Quality Improvement Process, either in that hospital or another facility.

The Roadmap generated for the Storyboard should be included in the Storybook

1. Ishikawa, K. *What Is Total Quality Control? The Japanese Way*. Englewood Cliffs,NJ: Prentice-Hall, Inc., 1985:147-8.
2. Nemoto, M. *Total Quality Control for Management, Strategies and Techniques from Toyota nd Toyoda Gosei*. Englewood Cliffs, NJ: Prentice Hall, 1987:77-99.
3. Anonymous. *QI Story and Techniques*. Miami, FL: Florida Power & Light Co., 1987.
4. Gitlow, H., et al. *Tools and Methods for the Improvement of Quality*. Homewood, IL: Richard Irwin, 1989:469-487.

© 1991 Hospital Corporation of America

GLOSSARY

Advisor – See Facilitator/Advisor.

Authoritarian Culture – An organizational culture characterized by the holding of all power (decision making and information) at the top of the organization. The authoritarian organization seeks to maintain the status quo and forces workers to conform, never question or give feedback play politics, and wait for orders.

Benefit – See Outcome

Boundary – The beginning or end point in the portion of a process from a Supplier to a Customer that will be the focus of the process improvement effort.

Brainstorming – A group decision-making technique designed to generate a large number of creative ideas through an interactive process. Brainstorming is used to generate alternative ideas to be considered in making decisions.

Cause and Effect Diagram – See Ishikawa Diagram.

Center Line – The line on a control chart that represents the average (mean or median) value of the items being plotted.

Check Sheet – A data collection form consisting of multiple categories. Each category has an operational definition and can be checked off as it occurs. Properly designed, the Check Sheet helps to summarize the data, which is often displayed in a Pareto Chart. One of the basic tools of the New Quality Technology.

Coach – A key resource person from within the hospital who will support the CEO's leadership of the HQIP. A respected peer from the hospital work force who is enthusiastic and knowledgeable about HQIP, eager to learn and eager to help others learn.

Collaborative Culture – An organizational culture characterized by a shared vision, shared leadership, empowered workers, cooperation among organizational units as they work to improve processes, a high degree of openness to feedback and data, and optimization of the organizational whole versus its many parts.

Common Cause System of Variation – The collection of variables that produce common cause variation and the interaction of those variables.

Control Chart – A display of data in the order that they occur with statistically determined upper and lower limits of expected common cause variation. It is used to indicate special causes of process variation, to monitor a process for maintenance, and to determine if process changes have had the desired effect. One of the basic tools of the New Quality Technology.

© 1991 Hospital Corporation of America

Customer – The receiver of an output of a process, either internal or external to a hospital or corporate unit. A customer could be a person, a department, a company, etc.

Data Collection – Gathering facts on how a process works and/or how a process is working from the customer's point of view. All data collection is driven by knowledge of the process and guided by statistical principles.

Deming Cycle for Continuous Improvement – A visualization of the HQIP process usually consisting of four points – Plan, Do, Check, Act — linked by quarter circles. The cycle was first developed by Dr. Walter A. Shewhart but was popularized in Japan in the 1950s by Dr. W. Edwards Deming.

Deming's 14 Principles – The foundation upon which the HQIP is built. The points are a blend of leadership, management theory, and statistical concepts which highlight the responsibilities of management while enhancing the capacities of employees.

Facilitator/Advisor – A person who has developed special expertise in the quality improvement process. In a quality improvement team, the facilitator/advisor is not a team member but a person outside the group who serves as a process guide, teacher of QI methods, and consultant to the team leader, and who helps connect the work of the team to the hospital's overall quality improvement effort.

Fishbone Chart – See Cause and Effect Chart.

Flowchart – A graphical representation of the flow of a process. A useful way to examine how various steps in a process relate to each other, to define the boundaries of the process, to identify customer/supplier relationships in a process, to verify or form the appropriate team, to create common understanding of the process flow, to determine the current "best method" of performing the process, and to identify redundancy, unnecessary complexity and inefficiency in a process. One of the basic tools of the New Quality Technology.

FOCUS-PDCA – A strategy that provides a roadmap for continuous process improvement when linked to a quality definition. It is an acronym meaning: **F**ind a process to improve, **O**rganize a team that knows the process, **C**larify current knowledge of the process, **U**nderstand sources of process variation, **S**elect the process improvement, **P**lan the improvement and continued data collection, **D**o the improvement, data collection, and analysis, **C**heck and study the results, **A**ct to hold the gain and to continue to improve the process.

Force Field Analysis – A systematic method for understanding competing forces that increase or decrease the likelihood of successfully implementing change.

Future State – In an organizational transformation, the vision of where the organization will be after it is transformed. For the transformation to HQIP, the future state includes constancy of purpose, leaders who model the new way, collaboration, customer mindedness, and a process focus.

Hospital Quality Trends (HQT) – A series of reports on judgments of key customers about hospital quality, such as HQT: Patients — a report on patient judgments. A systematic method of listening to the voice of the customer for the continuous improvement of quality.

Hospitalwide Quality Improvement Process (HQIP) – The application of the New Quality Technology in the day-to-day operation and management of Hospital Corporation of America and many hospitals. The insights of Dr. W. Edwards Deming, Dr. Joseph M. Juran, Dr. Kaoru Ishikawa, Professor Shigeru Mizuno, and others form the basis for this transformation.

© 1991 Hospital Corporation of America

Immediate customer—The person or unit that directly receives the output of the process.

Input—The service or product a supplier provides to a process. Inputs to one process are the outputs from preceding processes.

Ishikawa Diagram—A graphic tool used to explore and display all the factors that may influence or cause a given outcome. One of the basic tools of the New Quality Technology. (Also known as a cause and effect or fishbone diagram.)

Key Process Variable – A component of the process that has a cause and effect relationship of sufficient magnitude with the Key Quality Characteristic such that manipulation and control of the KPV will reduce variation of the KQC and/or change its level.

Key Quality Characteristic– The most important quality characteristics. The KQCs must be operationally defined by combining knowledge of the customer with knowledge of the process. KQCs are measured to understand the actual performance of the process.

Median—In a series of numbers, the median is a number which has at least half the values greater than or equal to it and at least half of them less than or equal to it.

Meeting Process—A defined method for conducting meetings that includes specific roles and responsibilities for a team leader, a recorder, a timekeeper, team members, and a facilitator or advisor. The steps are 1) Clarify the objective, 2) Review roles, 3) Review the agenda, 4) Work through agenda items, 5) Review the meeting record, 6) Plan the next agenda and methods, and 7) Evaluate.

Mentor – A highly skilled HQIP professional with extensive training and experience in the initiation and operation of the Hospitalwide Quality Improvement Process. A resource person from outside the hospital or department who visits periodically to counsel the CEO, Coach and Quality Improvement Council in the initiation of the HQIP.

Multiple Voting – A group decision-making technique designed to reduce a long list to a few ideas.

New Quality Technology Tools – A group of techniques and charts used to collect, organize, display, and evaluate knowledge about a process. Specifically, Brainstorming, Flowchart, Cause and Effect Chart, Check Sheet, Pareto Chart, Run Chart, and Control Chart are examples of these tools.

Nominal Group Technique – A group process technique designed to efficiently generate a large number of ideas through input from individual group members.

Operational Definition – A description in quantifiable terms of what to measure and the steps to follow to measure it consistently. Deming has suggested that a good operational definition includes: 1) a criterion to be applied, 2) a way to determine whether the criterion is satisfied, and 3) a way to interpret the results of the test. An operational definition is developed for each KQC or process variable before data is collected.

Opportunity Statement – A concise description of a process in need of improvement, its boundaries, and the general area of concern where a Quality Improvement Team should begin its efforts.

Outcome (Benefit) – The degree to which Outputs meet the needs and expectations of the Customer.

© 1991 Hospital Corporation of America

Output – The service or product that a customer receives from a process. The output of one process can be the input to a succeeding process.

Owner – The person who has or is given the responsibility and authority to lead the continuing improvement of a process. Process ownership is a designation made by leaders of organizations and depends on the boundaries of the process.

Paradigm Shift – A point in time when the knowledge or structure which underlies a science or discipline changes in such a fundamental way that the beliefs and behavior of the people involved in the science or discipline are changed. Many people feel a major paradigm shift is underway today in the health care field as the traditions of samaritanism and science begin to include social accountability.

Pareto Chart – A bar graph used to arrange information in such a way that priorities for process improvement can be established. It displays the relative importance of data and is used to direct efforts to the biggest improvement opportunity by highlighting the vital few in contrast to the many others. One of the basic tools of the New Quality Technology.

Present State – In a force field analysis, the description of an organization as it currently exists. It includes what happens in the organization, both formally and informally.

Process – A series of actions which repeatedly come together to transform Inputs provided by a Supplier into Outputs received by a Customer.

Process Improvement – The continuous endeavor to learn about all aspects of a process and to use this knowledge to change the process to reduce variation and complexity and to improve customer judgments of quality. Process improvement begins by understanding how customers judge quality, how processes work, and how understanding the variation in those processes can lead to wise management action.

Process Owner – See Owner.

Process Variation – The spread of process output over time. There is variation in every process, and all variation is caused. The causes are of two types — special or common. A process can have both types of variation at the same time or only common cause variation. The management action necessary to improve the process is very different in each situation.

Quality Assurance – A term with two definitions. In traditional health care circles, it is the process established to meet external regulatory requirements, including those of the Joint Commission on Accreditation of Healthcare Organizations, and to assure that patient care is consistent with established standards. It also supports the medical staff credentialing procedures. In modern quality terms, quality assurance means designing a product or service so well that quality is inevitable.

Quality Characteristics – Characteristics of the output of a process that are important to the customer. The identification of quality characteristics requires knowledge of the customer needs and expectations.

Quality Improvement Council (QIC) – A group composed of the Coach and the senior leadership of an organization which is primarily responsible for planning, strategy development, deployment, monitoring, educating, and promoting the quality improvement process.

Quality Improvement Process (QIP) – See Hospitalwide Quality Improvement Process (HQIP).

© 1991 Hospital Corporation of America

Quality Improvement Storytelling – A major accelerator of the process of hospitalwide quality improvement that uses QI Storybooks to follow steps in the FOCUS-PDCA strategy. QI Storybooks and QI Storyboards help teams organize their work and their presentations so others can more readily learn from them. Use of QI Storyboards and QI Storybooks reduces variation in the process of QI Storytelling so the focus of learning is on content, not the method of telling. QI Storybooks form a permanent record of a team's actions and achievements and all the data generated, and QI Storyboards can function as the working minutes of a team.

Quality Improvement Team (QIT) – A specially constituted group, usually five to eight people, chosen to address a specific opportunity for improvement. Consists of those people who have regular contact with the process.

Quality Inspection – Usually consists of three stages – sampling, measuring, and sorting. While many organizations rely on inspection to improve quality, the better way is to design quality into the product or service – to improve the process. This may include some inspection as a means of data gathering.

Red Bead Experiment – A simple exercise to demonstrate, among other things, that many managers hold workers to standards beyond their control, variation is part of any process, and workers work within a system beyond their control. The game also shows that some workers will always be above average, some average, and some below average, that the system, not the skills of individual workers, determines to a large extent how workers in repeating processes perform, and that only management can change the system or empower others to change it.

Refreezing – Recognizing, reinforcing, and rewarding new organizational attitudes and behaviors so they become the norm. Making processes, systems, and methods throughout the organization support the HQIP.

Rework – The act of doing something again because it was not done right the first time. It can occur for a variety of reasons, including insufficient planning, failure of a customer to specify the needed input, and failure of a supplier to provide a consistently high quality output.
Run – A point or a consecutive number of points that are above or below the central line in a run chart. Too long a run or too many or two few runs can be evidence of the existence of special causes of variation.

Run Chart – A display of data in the order that they occur. Run charts display process variation and can be used to indicate special causes of process variation in the form of trends, shifts, or other non-random patterns.

Seven-step Meeting Process—See Meeting Process.

Shewhart Cycle – See **Deming Cycle for Continuous Improvement.**

Special and Common Cause System of Variation – The collection of variables that produce both common cause variation and special cause variation and the interaction of those variables.

Sponsor – A member of the organizational leadership who serves as an advocate or champion for a process improvement, assists in securing resources, and gives guidance to the effort.

Statistical thinking for process improvement – A data-driven method for decision making based primarily on an understanding of process variation. It results in wise management actions which contribute to the continuous improvement of quality.

Storyboard – See Quality Improvement Storytelling.

© 1991 Hospital Corporation of America

Storybook – See Quality Improvement Storytelling.

Storytelling – See Quality Improvement Storytelling.

Supplier – The party or entity responsible for an input to a process. A supplier could be a person, a department, a company, a nursing school, etc.

Systems of Variation—See **Common Cause System of Variation** and **Special and Common Cause System of Variation.**

Tampering – Taking action without taking into account the difference between special and common cause variation.

Team Leader – A person designated to lead the Quality Improvement Team. An individual who has team leadership skills and basic quality improvement skills.

Teams

Cross-functional – A group of usually five to eight people from two or more areas of the hospital who are addressing an issue which impacts the operations of each area. For example, the processes of distributing laboratory results might be addressed by a team involving lab, nursing, and medical staff.

Functional – A group of five to eight people addressing an issue where any recommended changes would not be likely to affect people outside the specific area. For example, a Functional Team concerned with filing and retrieving data in the laboratory might consist just of people who work in the lab.

Tools – See **New Quality Technology Tools.**

Transformation – A major organizational change from the present state to a new/preferred state in which the HQIP flourishes. The primary steps involved in moving an organization through a transformation are present state, unfreezing, transition period, refreezing, and new/preferred state.

Transition Period – A description of the time when an organization is visibly moving away from the old way toward the new way. During this time, employee attitudes and behaviors range from being excited and busy to being confused and resistant. The support for change is building. New leaders emerge, champions of the change come forward and confusion over roles begins to clear.

Ultimate Customer – The person or unit who receives the output from a series of processes and for whom these processes are designed. Without the ultimate customer, there would be no need for the intermediate processes to exist.

Unfreezing – Reassessing old values and behaviors and becoming open to the acceptance of a new culture.

Variation – See **Process Variation.**

© 1991 Hospital Corporation of America

HCA History

The story of Hospital Corporation of America (HCA) provides a special chapter in the history of American health care and American business. It's a success story of taking health care innovatively to where it was needed, of breaking new ground in the financial arena, of keeping quality first, and of repositioning to most effectively meet the needs of the 1990s.

In the 1960s, America's health care system was plagued with problems. The exodus from the cities to the suburbs had spurred demand for new hospitals. Older facilities were becoming obsolete as new technology and treatments affected both costs and quality of care. Government regulations added pressures as operating costs soared, and philanthropic sources of capital began to decrease.

The federal government responded to the crisis with the establishment of Medicare in 1965. But it was a partial solution because capital formation and sound management were missing. In the late 1960s, private enterprise stepped in to form the first publicly owned hospital companies run by professional managers. These private sector pioneers reasoned that ailing hospitals could be nursed to health through sound business practices and effective resource management. Moreover, this could be done without sacrificing quality care. And, through access to public equity markets, these companies could generate substantial new capital.

In Nashville, Tennessee, HCA began as the brainchild of Jack C. Massey, Thomas F. Frist, M.D., and Thomas F. Frist Jr., M.D. The three men believed that groups of hospitals, using private funds and managed by businessmen working in close harmony with physicians, could provide superior health care at competitive prices. Frist Sr. had even more in mind: an intangible ingredient that often spells the difference between success and failure. "It's not bricks and mortar and equipment that make a hospital," he said. "It is the warmth and compassion and attitude of good employees that lead to quality care."

The elder Frist had already put that theory into practice when he founded Nashville's Park View Hospital in 1956. By the mid-1960s, he and other Park View physicians were seeking an entity to manage the hospital and infuse the capital needed for expansion and for keeping abreast of advances in medical technology.

After several attempts to find a buyer for Park View, Massey and the two Frists decided to go into the hospital management business for themselves by creating Hospital Corporation of America. HCA, in turn, purchased Park View Hospital.

To lead the fledgling company, Frist Sr. took the reins as president. Jack Massey became HCA's first board chairman. Massey had built Kentucky Fried Chicken Corporation into the world's largest commercial marketer of prepared food. He had also acquired an extensive background in hospital management, as a consultant to hospitals during his years in the surgical supply business and as an active participant in the building and direction of a large medical complex in Nashville.

Frist Jr. concentrated on hospital acquisition and development. He began what was essentially an odyssey of airplane flights to spread the word about HCA and its philosophy of hospital management. Driven by his father's

insistence that the company concentrate on providing medical care where it was most needed, Frist Jr. visited small towns where adequate hospital care simply was not available.

At the corporate office, Massey was working on HCA's financial blueprints. As a successful venture capitalist with links to the nation's financial centers, Massey began building the company's reputation among investors.

In only a few months, HCA began establishing a successful track record. By using modern management skills, group purchasing power and its ability to raise capital, HCA was able to bring much-needed hospitals to communities throughout the South. After only a year and half, HCA counted 11 hospitals in its growing network.

Ten years after the company began, Massey told Forbes magazine, "My goal had been to build 100 hospitals in 10 years, but we beat that. We had 100 hospitals in eight years. It was pretty hard to visualize the possibilities."

During HCA's early ascent, two precedents were set that eventually helped to shape the hospital management industry and establish HCA as a leading force. First was the efficient design of hospitals. With the help of Frist Sr., the company developed standardized models for the construction of community hospitals.

Next, HCA made its initial public stock offering, going from $18 to $40 per share in the first day of trading. Beginning in 1969, HCA reported uninterrupted advances in earnings throughout the 1970s and early 1980s. This performance record bolstered the faith of the company's growing number of shareholders.

In 1970, John A. Hill, former chairman and chief executive offer of Aetna Life Insurance Companies, was named president of HCA. Frist Sr. moved to vice chairman and chief medical officer. Hill's stature in the business world was an important asset to a young company whose size and success were in danger of outstripping its ability to be managed effectively.

As the management ranks were bolstered, so was the balance sheet. In 1970, HCA proposed a novel form of financing: long-term hospital mortgages.

Traditionally, a hospital lined up such financing solely for itself and lenders had based their decision on the prospects of an individual facility's success. But because HCA encompassed a number of the hospitals, the company negotiated with lenders to convince them that they could package mortgages and reduce their risk.

HCA's was an appealing argument. In 1970, several insurance companies agreed to lend HCA $15 million in long-term financing on five HCA hospitals. The company found that it also was able to negotiate with groups of major banks for interim financing. It was such innovative arrangements that opened up new financial horizons to the company.

Creatively, and in a relatively short time, HCA had conceived a steady plan of growth featuring a new construction program and the financing to sustain it. The financial expertise was backed by a knowledge of hospitals and how they worked. The company developed procedures, quality assurance methods and financial management. It also made available a wealth of health care knowledge and professional resources that an independent hospital could not afford on its own.

These improvements in the business of managing hospitals were not made, however, at the expense of the decentralized management philosophy that was fundamental to HCA's success. Despite the ever growing number of facilities in HCA's network, each hospital is a "community" hospital, not a corporate one. And while the corporation itself exists to provide support and resources to its hospitals, basic management decisions come from the community level.

Another component of the

company's success is represented by its employees. In 1971, HCA's personnel numbered 10,000. Management realized that its dramatic growth in beds and facilities owed much to the dramatic growth of human resources. In recognition of this fact, HCA awarded its first Thomas F. Frist Humanitarian Award that year to recognize the exceptional service of the employee who best represented the traditions Frist Sr. cherished: the warmth and compassion of human concern.

To guide the company in its goal of providing high quality health care, in 1972, HCA set up a quality assurance program which set stringent performance requirements for each HCA hospital.

By 1973, HCA represented 51 hospitals and 7,900 beds. And while HCA was gaining attention in the United States, its reputation was spreading abroad as well. That year, the company took on its first overseas project — the management of the highly sophisticated and technically advanced King Faisal Specialist Hospital and Research Centre in Saudi Arabia.

In 1974, HCA expanded its management of overseas facilities with a management agreement for Centro Medico Paitilla, a 100-bed hospital in Panama City, Panama. Centro Medico Paitilla is considered the most modern hospital in Central America.

Growth was brisk throughout the mid-1970s, and HCA reached the 10,000-bed milestone in 1975. As the company expanded, management took steps to marshal its resources and to tap the body of expertise assembled under the HCA umbrella.

While hospital ownership continued to be the main concern of the company, 1977 was the year in which HCA began to recognize increasing opportunities in the management of hospitals for other owners. That year, the management contracts division was formed.

Jack Massey, the Frists and other directors set out in 1978 to find a man who could prepare HCA and the industry to face the challenges of the 1980s. They selected Donald S. MacNaughton to become the new chairman and CEO, fresh from early retirement as chairman and chief executive officer of Prudential Insurance Co. of America. In that one stroke, HCA lent credibility to an industry that had previously been viewed as a curiosity, and they tapped the management expertise which MacNaughton had cultivated in his more than 23 years at Prudential. At the same time, Frist Jr. was elected president and chief operating officer.

Aside from its aggressive building program, much of HCA's growth had been fueled by acquisitions in the 1970s. As the company entered the 1980s under MacNaughton's leadership, it set a blistering pace in that area.

In 1980 and 1981, HCA acquired General Care Corporation, General Health Services, Hospital Affiliates International and Health Care Corporation.

The 1981 purchase of Hospital Affiliates alone accounted for an additional 55 owned hospitals with 7,700 beds and 78 managed hospitals with 8,500 beds. And from the purchase of Health Care Corporation has grown HCA Psychiatric Company, one of the country's leading owners of psychiatric hospitals with a network totaling 53 hospitals and 6,000 beds.

The mid-1980s found HCA receiving widespread recognition, for its expertise in health care management and its reputation as one of the best employers to work for in America. In 1984, HCA was named the best managed company in the health care industry by Investment Decisions magazine. HCA was lauded as a "super company that does everything right" and praised for its well-known and respected board of directors, which included Frank Cary, retired chairman and CEO of IBM, Clifton C. Garvin, Jr., former chairman and CEO of Exxon, Irving Shapiro, former chairman and CEO of E I duPont deNemours, and Carl Reichardt, chairman and CEO

of Wells Fargo.

HCA's excellence in health care management earned Frist Jr. the distinction of being named outstanding CEO in hospital management by Financial World magazine. For several consecutive years, Frist Jr. was recognized by the magazine for his leadership abilities.

Throughout 1985 and 1986, HCA continued its steady growth rate, both through new acquisitions and significant increases in hospital management contracts. In 1986, when HCA Management Company celebrated its 200th management contract, the company strengthened its leadership role further to become the nation's largest manager of not-for-profit hospitals.

HCA's international operations shared in the company's growth. In 1985, HCA formed its Canadian subsidiary to manage its seven facilities in Canada.

HCA's ability to anticipate changes and trends in its own industry was once again proved in 1986 when the company and the Equitable Life Assurance Society of America announced plans to form an equally owned joint venture to provide health and other employee benefit products. The agreement merged Equitable's Group and Health Insurance division and HCA Health Plans to form Equicor.

During this same period, HCA's stock value continued to rise, a market event that did not escape notice by Business Week and Fortune, who ranked HCA as the third largest diversified services company in the United States.

In many ways, HCA's increasing size and presence in the health care industry led to the company's restructuring efforts in 1987. On September 17, HCA sold 104 of its acute care general hospitals to HealthTrust Inc., an employee-owned company headed by former members of HCA's senior management team.

HCA retained 82 acute care general hospitals, all of its psychiatric hospitals, its international division and the management of more than 200 hospitals for other owners. HCA also retained a significant ownership in HealthTrust.

In 1988, HCA senior management announced its intent to purchase the company through a leveraged buyout. In March 1989, HCA became a private corporation when management, together with outside investors, purchased the company for approximately $5 billion.

In order to repay a portion of the debt incurred through the leveraged buyout, HCA sold the HCA Management Company, its clinical laboratories division and its international operations. HCA retains ownership of 75 medical surgical hospitals and 53 psychiatric hospitals in the United States.

Now in its 21st year, HCA owns or manages facilities in 24 states. Its employees now number more than 60,000. Domestic and psychiatric hospitals remain the backbone of HCA's performance, but HCA has built more than just hospitals. It has built a reputation as a company that cares, as one that seeks to enhance every community it serves.

Whether the location is in a quiet, small town or a busy metropolitan area, each HCA affiliated facility demonstrates the philosophy espoused by Dr. Frist Sr. — "Bettering the human condition is the greatest good any individual — or any corporation — can achieve." HCA will continue to use this same philosophy as it moves into the 21st century.

As a private company, HCA will continue to be committed to excellence in health care, for the benefit of the medical staff, employees, the community, and most importantly, the patient.

QL Perspective

Physician Judgments of Quality: How Do They Fit Into Organizationwide Quality Improvement?

by Eugene C. Nelson, DSc, Robin Rose, MBA, and Paul B. Batalden, MD

What do we mean by physician judgments of quality? What is meant by the term "organizationwide quality improvement"? This article will provide an overview that shows how physician judgments of quality and organizationwide quality improvement fit together in one organization's model for continuous improvement.

Organizationwide Quality Improvement

Organizationwide quality improvement (OQI) represents a top-to-bottom, side-to-side commitment to the systematic and never-ending improvement of quality throughout an entire organization. (See THE QUALITY LETTER, September 1989.) It represents a new way of thinking about quality and leadership in healthcare and draws heavily on the work of "quality thinkers" such as Shewhart, Deming, Juran, Feigenbaum, Ishikawa, Mizuno, and others. One idea that is common to all of these leaders is that the "customers" of the organization are the primary reason for its existence. In this way of thinking, a superior organization is the one that will meet its customers' needs at best value and ultimately will even exceed those expectations. Another common thread is the recognition that organizations are made up of interconnected and parallel processes — all of which can be continuously improved with the aid of deeper knowledge of the customers that each of those processes serves.

A healthcare organization that adopts the OQI way of operating will repeatedly work its way through the cycle for continuous improvement. Figure 1 illustrates this cycle for hospitals and shows that its main "customers" — patients, physicians, payers, employees, and the community — are in a key position because they both *define and judge quality.*

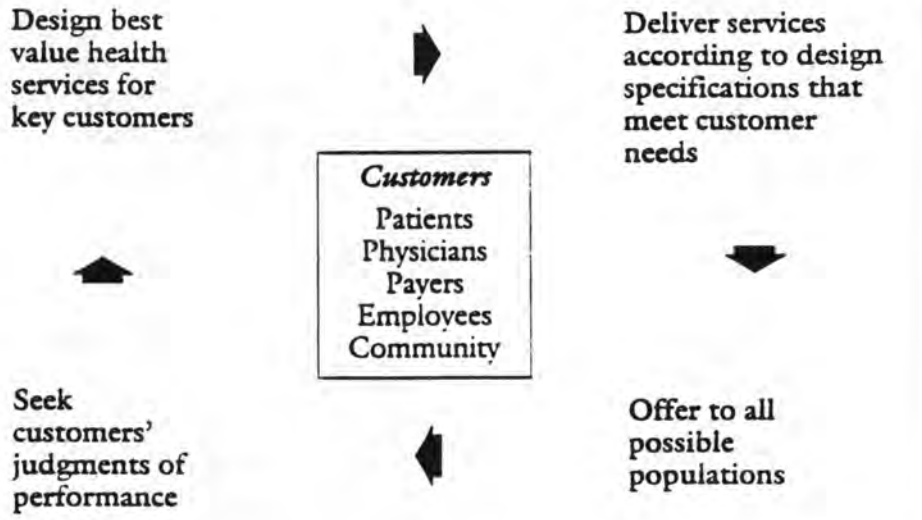
"Immediate" vs. "Ultimate" Customers

It is important to differentiate between "immediate" and "ultimate" customers. Immediate customers receive the direct product or service of a process, and they pass it on until it eventually arrives at the final point of benefit for the ultimate customer. Seen in this way, the patient is the ultimate customer of the hospital, but the immediate customer may be a physician or some other internal customer such as the business office or a nursing unit. Organizations that fail to take account of the needs of their immediate customers will quickly go out of business. Those who ignore the ultimate customer take longer to fail, but as they deteriorate they drag down many of their immediate customers. The message is this: *both* types of customers are important and are deserving of our knowledge of them.

> **"The patient is the ultimate customer of the hospital, but the immediate customer may be a physician or some other internal customer such as the business office or a nursing unit."**

Physicians play many roles in hospitals. They are, at different times, patient advocates, suppliers, leaders and managers, Governing Board members, business partners, and more. But in another role, they are also customers of the hospital. The hospital provides physicians with a place to practice medicine, an environment for their patients to receive care, and access to resources they need to sustain or build their practices. By listening to physicians in their roles as patient advocates and customers, we can obtain important infor-

Figure 1:
Deming/Shewhart Cycle for Continuous Improvement



mation about how well the processes of the hospital are meeting their needs. This supplements information we receive from other sources about patients' needs.

How Physicians Judge Hospital Quality

There are many ways to determine how physicians view hospital quality. Approaches most commonly used include informal conversations with doctors, meetings with medical staff, focus groups, and monitoring statistics like hospital utilization and referral rates. These all provide valuable information. However, they are rarely carefully developed or systematically used. Therefore, these commonly used ways of collecting physicians' views usually can't serve as *quality measurement systems* capable of assisting in the redesign of services. Further, these approaches usually fail to consider the organization as a network of interrelated processes. As a result, they do not give leaders information about the major processes operating in the hospital.

To address this need, a questionnaire-based method for measuring hospital quality, which uses medical staff judgments, was pilot tested and validated by physicians, administrators, and healthcare measurement specialists from the Hospital Corporation of America, Harvard Community Health Plan, New England Medical Center, and The RAND Corporation.

This system, called the Hospital Quality Trends: Physician Judgments System (HQT:MD, for short) was tested in 8 hospitals in 1988 and used in about 20 hospitals in 1989. It will be used in an additional 50 or more hospitals in 1990. The HQT:MD system is a valid and reliable method for gathering, feeding back, and using physician ratings of hospital quality as part of hospitalwide quality improvement. It is one member of a quality measurement "family" that we have developed to help healthcare leaders deepen their knowledge of their customers and to track quality trends based on the judgments of patients, physicians, employees, payers, and community residents.

"These commonly used ways of collecting physicians' views...do not give leaders information about the major processes operating in the hospital."

The HQT:MD questionnaire measures the following areas:

- Nursing staff
- Administrative staff
- Medical records and clinical information
- Efficiency in scheduling of patients
- Treatment of family
- Staff to manage emergencies
- Medical equipment
- Selected features of the hospital
- Discharge process
- Medical staff's attention to quality
- Overall hospital quality
- Would use or recommend hospital
- Hospital-based medical staff
- Hospital departments' quality

The HQT:MD system is sponsored by the hospital's CEO and chief of the medical staff — but is professionally managed by an independent research staff. It uses a practical and standardized method to collect and feed back information. This has the advantage of putting quality measurement and report production in the hands of professional researchers, thereby enabling the hospital to focus its energy on using the results to improve performance.

The system works in this way:

1. Sampling. A 100% sample of the most active members of the medical staff and a representative sample of less active physicians are identified and their names, addresses, and phone numbers are sent to research headquarters.

2. Data Collection. Questionnaires are distributed to physicians for completion at a convenient time and return to headquarters.

3. Non-respondent Follow-up. Physicians who fail to complete a questionnaire within a few weeks are urged to participate. This is done by working through their office staff to prompt their response.

4. Data Analysis and Report Production. The responses are tallied and trend reports are produced using graphics to display quality ratings.

5. Consultation. The hospital receives consultation on how to interpret and make use of the results within the context of the hospitalwide quality improvement plan and its strategic plan.

6. Education. Hospital leaders attend a workshop to learn how to disseminate the findings throughout the hospital and make wise use of the information to improve hospital performance.

The HQT:MD questionnaire is at the heart of the system. An 89-item questionnaire is used to gather physicians' judgments of hospital performance in two key areas: work place quality and patient care quality. (See Figure 2 for an excerpt from the HQT:MD questionnaire.)

In addition to fixed-response questions that form quantitative measures, the questionnaire includes open-ended questions that ask physicians for ideas for quality improvement and for the features of local hospitals that make them want to practice/not want to practice in them.

The graphic displays of each hospital's quality scores clearly "telegraph" the "voice of the physician" on hospital quality. Figure 3 illustrates a page of an HQT:MD trend report. The percentage of physicians rating these elements of hospital quality "excellent to good" is shown in burgundy, while the percent judging it "fair" is shaded dark grey, and "poor" is shown as light grey. To track progress, most hospitals receive trend reports once every two years; however, annual measurement is recommended in markets where the potential to change referral patterns is high.

Using Physicians' Judgments to Improve Quality

It is one thing to *measure* quality based on physicians' judgments. It is quite another thing, and much more difficult, to *use* the results to foster improvements. There are many constructive uses of HQT:MD results:

- **Increase Customer-mindedness of Hospital Employees.** High-quality care requires teamwork, mutual respect, and a clear understanding of needs and expectations among all the hospital's key players — physicians, nurses, administration, and other hospital staff. One hallmark of an excellent hospital is that members of the medical staff are treated like *valued* members. This means understanding what they consider to be the key in-

Figure 2:
Sample From the HQT:MD Questionnaire

HOSPITAL-BASED MEDICAL STAFF QUALITY

Evaluate the quality of each of these hospital-based medical specialties regarding:

- **Communication with Attending Physicians:** specialists' communication skill & ability to answer questions
- **Availability of Attending Physicians:** adequacy of numbers & types of specialists on staff
- **Skill & Efficiency:** specialists' technical ability; they perform the job right the first time

SPECIALTY	COMMUNICATION WITH ATTENDING					AVAILABILITY TO ATTENDING					SKILL & EFFICIENCY				
	Excel.	Very Good	Good	Fair	Poor	Excel.	Very Good	Good	Fair	Poor	Excel.	Very Good	Good	Fair	Poor
48. Anesthesiologists	☐5	☐4	☐3	☐2	☐1	☐5	☐4	☐3	☐2	☐1	☐5	☐4	☐3	☐2	☐1
49. Pathologists	☐5	☐4	☐3	☐2	☐1	☐5	☐4	☐3	☐2	☐1	☐5	☐4	☐3	☐2	☐1
50. Radiologists	☐5	☐4	☐3	☐2	☐1	☐5	☐4	☐3	☐2	☐1	☐5	☐4	☐3	☐2	☐1

HOSPITAL DEPARTMENTS' QUALITY

Evaluate the overall performance of each department. Base your rating on these factors:

- skill, efficiency, morale, and the extent to which the department treats physicians like valued customers.

After evaluating each department, indicate with an "X" whether or not you are a regular user of this department.

Please "X" the last column (i.e., "No Department") if this hospital does not have the department.

COMMON CLINICAL DEPARTMENTS	Excellent	Very Good	Good	Fair	Poor	Regular User	No Department
51. Anesthesia	☐5	☐4	☐3	☐2	☐1	☐1	☐0
52. Maternity							
53. Medical	☐5	☐4	☐3	☐2	☐1	☐1	☐0
54. Pathology							
55. Radiology	☐5	☐4	☐3	☐2	☐1	☐1	☐0
56. Surgery							
SELECTED DEPARTMENTS & AREAS							
57. Med/Surg Unit(s)	☐5	☐4	☐3	☐2	☐1	☐1	☐0
58. Intensive Care Unit							
59. Cardiac Care Unit	☐5	☐4	☐3	☐2	☐1	☐1	☐0
60. Neonatal ICU							
61. Pediatrics In-patient Unit	☐5	☐4	☐3	☐2	☐1	☐1	☐0
62. Psychiatry In-patient Unit							
63. Operating Room	☐5	☐4	☐3	☐2	☐1	☐1	☐0
64. Recovery Area							
65. Physical Therapy	☐5	☐4	☐3	☐2	☐1	☐1	☐0
66. Respiratory Therapy							

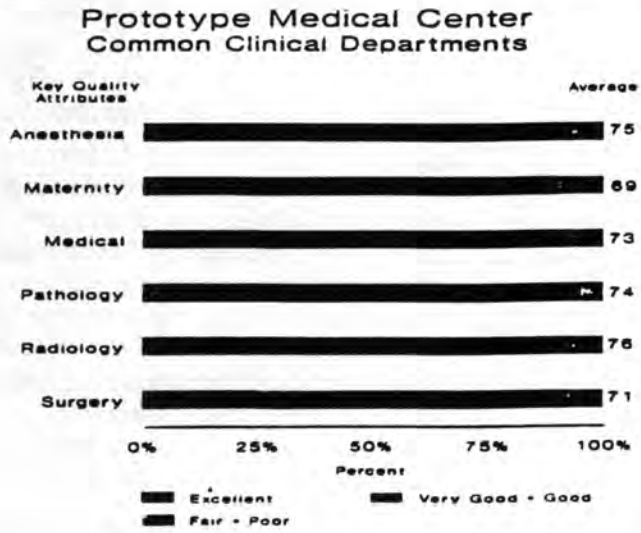
gredients in making a hospital an outstanding place for their patients to receive care and for them to practice state-of-the-art medicine. We developed the HQT:MD questionnaire based on physician input to define the key features of hospital quality.

- **Identify High-Priority Areas for Improvement and Recognize Levels of Excellence.** A basic tenet of continuous improvement is that all systems can be improved. The only question is what to work on next. The HQT:MD system provides "voice of the customer" feedback, which can be combined with other information, to identify high-priority areas for improvement. Other things being equal, it makes sense to focus improvement efforts in the areas that key customers (*ie*, medical staff) not only view as important aspects of quality, but also as areas with which they are dissatisfied.

"A basic tenet of continuous improvement is that all systems can be improved. The only question is what to work on next."

Figure 3:
Sample Page From HQT:MD Report

Each bar represents the percentage of higher-admitting physicians who rated that aspect of care from excellent to poor. "Average" represents the mean rating of each attribute where excellent is represented by a score of 100 and poor by a score of 0. In some cases, results are reported for a department that does not formally exist at the hospital because a substantial number of physicians rated that key quality attribute.



At the same time it is useful to reveal what proportion of physicians view certain aspects of hospital quality as excellent. "Good news" can be recognized, celebrated, and used for strategic positioning. Listening to the voice of the customer can be demoralizing if hospital personnel only hear the "bad news."

- **Monitor Long-Term Quality Trends.** A hospital that is serious about quality improvement can define and measure quality, and knows how to use scientific methods to improve performance. The HQT:MD system provides an accurate method to determine if the hospital, as a whole, is improving, deteriorating, or staying the same.
- **Strategically Defend and/or Expand the Hospital's Physician Referral Network.** The HQT:MD system provides valuable feedback on hospital performance as perceived by both active and less-active medical staff members. By identifying areas in which active medical staff are dissatisfied, the HQT:MD report serves as an early warning system of areas in which the hospital may be vulnerable to inroads from competitors. These are areas in which the hospital should make improvements to defend the business it already has. For example, knowing that a hospital's high-admitting orthopedic surgeons give poor ratings to its operating room scheduling system gives the hospital an opportunity to improve this process before the surgeons are lured to a competitor where operating room scheduling is more to their liking.

"The HQT:MD system provides 'voice of the customer' feedback, which can be combined with other information, to identify high-priority areas for improvement."

The HQT:MD system also provides insight into differences between active and less-active medical staff. By knowing how hospital ratings differ between these two groups, it is frequently possible to identify areas for hospital improvement that are likely to convert low admitters in key specialties to high admitters or to attract physicians who do not currently use the hospital, thus expanding the hospital's overall referral base.

- **Compare Physician Judgments of Quality With Patient and Employee Judgments.** Because hospitals can make use of a "family" of

quality measures, they are able to correlate, compare, and contrast the voice of the physician with the quality judgments of other key groups such as patients and employees. For example, a hospital may "triangulate" on the level of quality of a key feature of care, such as "nursing skill" or "concern and caring," by comparing the HQT:MD results with those from similar items used in the Patient and HQT:Employee systems.

HCA West Paces Ferry Hospital in Atlanta was one of the first hospitals to use the HQT:MD system. It applies the findings to increase customer-mindedness by teaching all employees and new hires what it takes to make physicians "brag" about the hospital; identify high-priority areas for improvement by asking each department in the hospital to identify what processes it is responsible for that impact on physician "bragging" about hospital quality, and then to charter quality improvement teams in these areas; monitor long-term trends by repeating the measurement process periodically and disseminating the results throughout the hospital; and compare physicians' judgments of quality with patients' and employees' to understand how different customer groups evaluate similar aspects of quality.

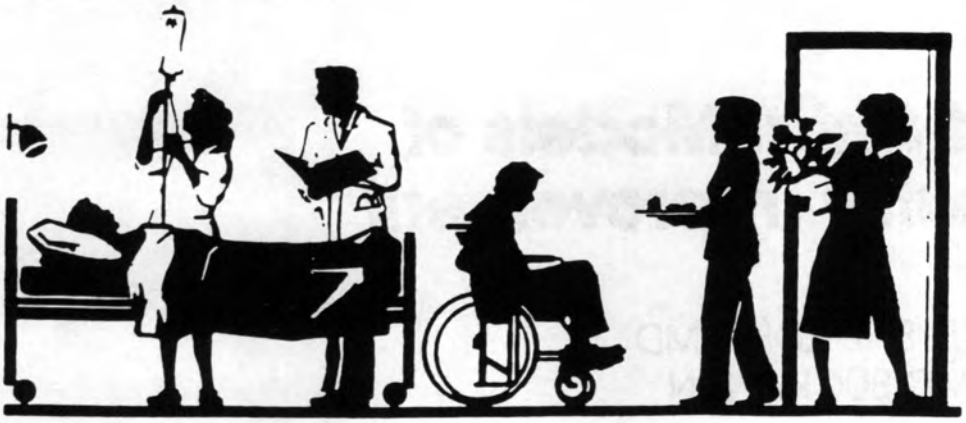
Challenges in Measuring and Using Physician Judgments of Quality

There are many challenges in measuring and using physicians' judgments of quality. First, every physician has his or her own individual needs and expectations for the hospitals they use. It is difficult, therefore, to develop a general-purpose questionnaire that accurately reflects the needs and views of a diverse group of physicians. Second, administration must invest money and time to cover the cost of measurement and make use of the findings. Third, some administrators believe that they already know what their medical staff thinks about quality ("I talk to my doctors every day") and see little value in quality measurement. Others are not sure that they have the time to deal with total quality ("My plate is already full"), or view themselves responsible only for certain dimensions of quality ("I'm responsible for service quality and the medical staff is responsible for clinical quality"). Fourth, the HQT:MD questionnaire takes 20–30 minutes to complete. Therefore, extra steps must be taken to achieve a reasonable response rate from busy physicians (response rates for most hospitals range from 50% to 75%). The fifth and biggest challenge is to make effective use of the information to improve performance of the hospital. Quality improvement requires sustained, planned effort by individuals and teams, which helps them understand that their job is actually twofold: "*doing* their normal work" and "*improving* their normal work." This requires a method to foster an environment that promotes and encourages people to improve everything they do. Systematic feedback from customers can help energize that work.❖

"'Good news' can be recognized, celebrated, and used for strategic positioning. Listening to the voice of the customer can be demoralizing if hospital personnel only hear the 'bad news.'"

Eugene C. Nelson, DSc, is Director of Quality of Care Research in the Quality Resource Group of the Hospital Corporation of America; Robin Rose, MBA, is Director of Healthcare Services for NCG Research; and Paul B. Batalden, MD, is Vice President for Medical Care and Hea of the Quality Resource Group of the Hosp tal Corporation of America, Nashville.

References available upon request.



PROVIDING QUALITY CARE

The Challenge to Clinicians

NORBERT GOLDFIELD, MD
DAVID B. NASH, MD, MBA
Editors

Industrial Models of Quality Improvement

PAUL B. BATALDEN, MD
E. DAVID BUCHANAN

INTRODUCTION

Three years ago the Hospital Corporation of America initiated a process to adapt the concepts of continuous quality improvement to the way we manage the delivery of health services to our patients. The quality improvement process is based on principles that an increasing number of successful companies worldwide are initiating as the most effective method for raising quality and productivity while reducing the total cost of use of either service or product. The following discussion sets out the principles that support the quality improvement process with an emphasis on how they relate to the practices of physicians.

HEALTH CARE AND HOSPITALS TODAY

A new style is emerging in the American health care system. One characteristic of this style is the increasing impact of organizations on the way the system functions. Not only have financing and governmental entities adopted distinctly different roles regarding their policies affecting payment and regulation of the system, but the care process itself is evolving into new structures. Typically patient care requires coordinated efforts of many health care professionals and workers. More and more the quality and effectiveness of an individual practitioner depends on developing frictionless interfaces with the other components of the system. In addition, patients today are more inclined to ask "why," search for alternative interventions, and participate actively in care decisions when choices are available.

These factors increase the amount of accountability expected of the medical care system: accountability to patients in terms of quality, choice, and value;

accountability to external audiences including payers, employers, and regulators; and accountability to peers and coworkers for communication and participation.

In this environment of accountability rather than authority, a professional leadership opportunity for improvement is clearly desired and can be professionally satisfying as less time is required to cope with deficiencies of the system, and more time is available to do the things that matter most to patients. For many physicians the realization that they have helped things improve will be the most satisfying reward.

Commitment

The concept of quality improvement being adopted by organizations throughout the United States involves a few basic characteristics: The quality of service or product is determined from a careful understanding of the needs and expectations of "customers"; the organization's leaders have a responsibility for quality that cannot be delegated to a quality department or quality committee; the improvement of the quality of the product or service is continuous and neverending; and everyone in the organization is involved in improving quality because everything can be improved (1-4).

As we apply quality improvement techniques to the delivery of medical services, we should remember that the commitment to improve precedes attempts to measure current performance. It is common to assume the reverse, that measurement can drive the intent to improve. In practice, however, this merely leads to defensive maneuvering and self-justifying behaviors. The commitment to improve must determine the nature and content of the measurement process, not the reverse.

Quality improvement is a continuous process to understand the needs and expectations of customers and to search for ways they can be better met. It is proactive not reactive; it tries to get ahead of problems by preventing them rather than waiting until a problem has gotten out of hand. Although problems need to be solved, quality improvement is not just an exercise in problem solving. One veteran of quality improvement implementation notes that "problem solving" only gets you back to where you should have been in the first place. Quality improvement is what you do from there, taking a system that runs reasonably well and making it superior.

Quality improvement is not something to be done when a customer complains or the outputs do not meet the specifications. Quality improvement is a way of life. Participation is regular and ongoing, crises are prevented before they arise, the quality of output is predictable, and systems anticipate problems rather than react to them. The quality of the output is continuously improving and the customer's needs and expectations are known, met, and then exceeded.

In a quality improvement organization, improving quality is everyone's job. It is not something assigned to one person or a small group. Everybody has a part of the action and everybody works to improve the way his or

her part of the process contributes to a better whole (5). Some individuals readily accept the concepts; others take longer. Quality improvement involves a change in how one gets through the day, week, or month. At the beginning some groups within an organization will be moving forward while others are still learning the basics. Eventually, however, everyone in the organization will need to participate for the full potential to be realized.

According to the leaders of this approach to quality improvement, a "statistical way of thinking" is necessary, even though the techniques often require little beyond basic arithmetic skills (6). A statistical way of thinking includes an understanding that variation is a natural part of every process and that, to understand the variation and be able to take appropriate action, it should be measured over time. (7,8). For example, a mortality rate of 7.5% that is consistently declining over the years is different from a rate of 7.5% that has been increasing for several years, and both are different from a rate that is erratic — one year at 2%, one year at 20% and another year at 7.5%. The pattern of the variation provides significant information for those who wish to improve quality.

THE ORIGINS OF QUALITY IMPROVEMENT

Before the 1920s when most manufacturing was done in small shops, the quality of work was monitored by the people running the production process or by an inspector here and there. As the industrial revolution settled into the assembly lines of mass production, however, the cost of having inspectors grew, and the idea of measuring samples and of statistical process control emerged as an alternative to inspection of every piece. The theory was refined during the 1930s and the concepts were widely adopted during the expansion of United States industry in support of the war effort of the early 1940s.

For some time after that the technology did not advance significantly in the United States. Many companies used statistical process control on their production lines, but there was no effort to use the concepts in the decision-making processes of management. Quality was the responsibility of the quality department, not an element of the strategic development of most companies (9).

Some say American industry was lulled into a false sense of superiority. After the war when most other industrialized countries were rebuilding their economies, demand for American products was high. Because energy was inexpensive and raw materials were readily accessible, American firms could produce a particular level of quality at a lower cost than other countries. Americans had a clear competitive advantage and no incentive to develop more efficient ways of doing business. Besides, there were technologic improvements that contributed to improved quality and lower costs. Not until the mid 1970s did it become apparent that others had been moving at a different pace, particularly the Japanese.

After the war American forces occupying Japan were anxious to help the Japanese economy and to make their industrial firms competitive with

foreign suppliers. The Japanese in turn saw the occupation forces as a major potential customer and were striving to produce equipment according to American specifications. As a result several experts from the United States were invited to Japan to teach statistical process control to Japanese engineers. Among the earliest advisors to the Japanese were W. Edwards Deming, Joseph M. Juran, and somewhat later, Armand V. Feigenbaum, all respected experts in the application of statistical techniques to production processes (10).

That the Japanese were able to install the statistical process control technology in their emerging production lines and become suppliers to the American occupation force is not the story. Rather, with the guidance of their American advisors, the Japanese were able to see that quality meant more than just meeting the specifications for the physical characteristics of a part or a product. They understood that with their geographic and geologic handicaps they would need to find other ways to produce equivalent or greater quality at a price that met international competition if their economy was to grow.

Statistical process control was only the beginning of what has become a comprehensive approach to quality making in Japanese industry. The techniques they have discovered range from listening carefully to their customers, designing products that reflect and anticipate the customers' needs, designing manufacturing processes that are simple to operate and maintain, obtaining total involvement of the entire work force in continuously improving the systems within which they work, and applying these concepts to every aspect of the business — the planning, management, administrative, and service functions as well as operations and manufacturing. The sum of it has come to be known as Total Quality Control or organization-wide quality control and improvement. It is what improved the Japanese competitive position in international trade to the point that they now dominate the world market for a wide variety of products and, more recently, services (11,12).

There is a story about a group of Japanese businessmen who visited the United States in the early 1950s and were astonished by the sophistication of the modern American factories. A similar group of Japanese businessmen visited the United States 25 years later and were astonished again — this time by the fact that almost nothing had changed during the intervening period. While the Japanese were building an economy based on quality and the long-term success of their companies, Americans had adopted a management style that emphasized short-term gains to the near exclusion of long-term considerations. The failure to continuously improve the physical plant was the most obvious of management's focus on short-term financial returns (13).

American industry is now changing. Several major American firms directly adopted the model of quality making from their Japanese subsidiaries, and many others credit the Japanese origins of their new Total Quality Control programs. The literature has been dominated by Japanese authors or Americans who guided them. In June 1980, NBC television aired a 90-minute program titled "If Japan Can Why Can't We?". That program is often used to mark the beginning of the American resurgence of interest in quality; the last 15 minutes of the program were devoted to Dr. W. Edwards Deming (14).

The development of quality improvement at Hospital Corporation of America has been guided largely by the work of Dr. Deming. He was born in 1900 and at this writing still consults widely and conducts a 4-day seminar monthly. He understood that statistical process control alone was not sufficient to produce consistent quality. He convinced Japanese managers that it was important to listen to the customer, understand what the customer needed, and then make the best possible product to suit that need. In doing so he brought them a new and much more complex concept of "customer" that included an "internal" customer as well as the usual "external" customers (15).

Simply meeting specifications is not enough if better is possible. The Japanese learned to reduce the amount of waste by minimizing the number of times specifications are not met; make the product or deliver the service with such consistency and predictability that inspection and its costs can be reduced substantially and often avoided entirely; reduce warranty costs by preventing early failure of the product; and please the customer in the process. Dr. Deming also points up the unknown costs of poor quality. The most important of these costs is the amount of business that is lost because of the number of people one dissatisfied customer may tell about an unhappy experience with your service or product (16).

DEMING'S 14 POINTS

Dr. Deming has gathered his beliefs about quality improvement techniques into a set of principles that he refers to as "the 14 points" (17). He has said that if he had to reduce his message to managers to just a few words, "I'd say it all had to do with reducing variation" (18). His 14 points reflect his insights about the causes of variation and how to reduce it. The validity of the points is reinforced by the fact that they also express a good deal of common sense about the attitudes that should exist within an organization and the nature of the relationships that are seen among people in successful organizations. Dr. Deming may not have had hospitals and medical care in mind when these concepts were formulated, but health care professionals run organizations in very much the same way as any other endeavor that employs people, operates processes, and produces a service or product for an ultimate customer, in our case the patient. In this organizational context the 14 points are applicable to anyone, including the administrators and professionals who work in all types of health care organizations, a 500-bed hospital with 2000 employees, or a solo practitioner's four-person office staff. The 14 points are as follows:

1. Create Constancy of Purpose

Every organization involves people working together. Whatever the organization is able to produce depends on the interactions of these people.

This also applies to physicians, who rely on others to perform various tasks that support the goals for a patient. For these individuals to perform up to their capacity, however, they must understand what the goals are, and be committed to quality of service and quality of patient care. If that sounds platitudinous, consider how often physicians or other professionals think about these issues when they join organizations, apply for medical staff privileges, or seek a place in a professional partnership or group practice?

When physicians direct their own employees, is there clarity and constancy about the purpose of the practice? What is meant by quality? Are employees ready to act correctly when questions of finance and patient care intermingle? Or, is there the possibility that employees might not be certain about the intentions of the physicians or the organizations in which they work? What would the effect be if there was any uncertainty?

There is evidence that given a basic level of professional skill, the environment within which patient care is provided is the single most important determinant of a successful outcome for the patient. An environment that places quality above all other considerations is the one patients and other customers will choose.

2. Adopt the New Philosophy

If a physician has a specialty and has been successful in helping patients with a particular condition — heart disease, Parkinson disease, arthritis — the physician reinvests in further knowledge and improvements in performance because he or she knows that is the way to secure the future. These same attitudes can be incorporated into the entire process of patient care. Better value and quality always attract people whenever there is a choice.

3. Cease Dependence on Inspection

Physicians have always known that they could not inspect quality into the services they provided — they had to design quality in. Given this perspective it is ironic that at the same time American and other competitive firms who adopt the quality improvement process are searching for ways to reduce the amount of inspection, the medical care system sees a continually growing amount of it. Peer review organizations (PROs), the Joint Commission for the Accreditation of Healthcare Organizations (JCAHO), state licensing agencies, state data commissions, and so forth seem to be a major growth industry. Furthermore, the purpose of inspection in health care seems increasingly directed toward adversarial proceedings rather than toward data gathering for improvement and redesign. We seem to want to inspect to establish sanctions. That occurs in PROs, in state governments, and in hospital quality assurance programs, and makes things difficult for even the best intentioned physicians.

Some inspection will always be necessary in quality assurance: We must know that the services we create and deliver are provided as intended. Failing that test we must encourage people to use the inspection information to redesign what they do. The form of inspection that emphasizes redesign must be directly linked to what is important and necessary for the customers. Currently how do we test the customer-relevance of the inspection processes we maintain? Do we inspect the health care system to measure whether the needs and expectations of patients have been met? Do we design our inspection efforts to understand the nature and causes of variation so it can be reduced? Or, have we fallen into the trap of measuring and inspecting what is conveniently available in the form of data gathered for essentially other purposes? We must rethink how we should inspect and how we should use inspection — we have never been able to depend on it as the means to quality health care.

4. Cease Awarding Business on the Basis of Price Alone

The organizational issue here relates to the tendency of bureaucracies to believe they can write specifications that will exactly define the quality of items or materials to be purchased from vendors. They then buy from the bidder who meets the specifications at the lowest price. But in this kind of relationship between the vendor and the user, the vendor does not have a chance to understand how the item may be used and whether there would be a way to improve the specifications so that the item could be more suitable, last longer, or be made less expensively.

In this sense, physicians understand that the impact of an unsuspected defect or a premature failure can be significant and that the lowest direct cost may not result in the lowest cost in use. In addition physicians tend to be close to decisions about purchasing the materials used in the care of their patients.

The message that Dr. Deming brings to physicians is that the costs of purchasing from quality suppliers can be reduced by creating long-term relationships with them. If a supplier knows his customers are going to be there for a long time, a relationship can be established that allows each to help the other increase the quality of the product or service produced. These same notions apply to the schools. What if nursing, medical, and administrative schools were to take this notion so seriously that they regularly refocussed their curricula to enable each graduate to be fully "fit for use," to borrow Juran and Gryna's (19) concept, at the time of employment in health care? How much less cost would there be to the system?

5. Improve Continuously and Forever

What are the methods or systems currently used to improve clinical care? Do we have an organized method? Is it coherent? Continuing medical education

can be a valuable contribution, but what is being done to improve the processes involving other professionals who must work with and, in many cases, support the physician in caring for patients?

Everything a physician does for a patient is mediated by a system. Just getting the patient into the office for a visit involves a system, and the performance of that system will affect the likelihood that the physician will meet with the patient at the moment it will do the most good. Prescribing a medication involves a system, and getting the medication into the patient is another system. Because patients often are the critical component of the system that implements a physician's clinical strategy, the physician's personal system for transmitting advice and information to the patient deserves attention: its effectiveness should be measured continually. Medical or surgical procedures involve elaborate systems including the rationale used to decide when the procedure is appropriate, its actual performance, and the organization of follow-up care. Every step of these processes represents a potential opportunity for improvement.

Quality improvement involves making systems better, that is, reducing the number of occasions when things go wrong as well as the chance that they can go wrong. This is done by the people who are part of the system. Working together they will know how the system can be improved. But to do so they must know who the users of the system are and what their needs and expectations are, and they must have permission from those responsible for the organizational setting to make continuous improvement a part of their job. This means creating a climate that fosters an interest in, "what can be improved?" rather than, "who is at fault?" Every year Toyota generates millions of suggestions for improvement from its work force, and most are implemented. What if we in health care did that?

6. Institute Training and Retraining on the Job

Training and retraining are basic to medicine. For the physician, education and retraining are an ongoing part of professional life. Observation, performance under supervision, and eventually the teaching of others are used by physicians to acquire and retain the knowledge necessary to perform at the highest level. But what about employees in the office and other professionals with whom physicians interact? Is there sufficient attention to their continual growth both in knowing their role in the process of care and how to improve it? In today's environment everyone must know how to improve the processes for which they are responsible and must cooperate with improving the many other processes with which they interact. Is everyone trained to do that?

A question worth considering — do your employees and the other professionals with whom you regularly work know how their actions and performance relate to the quality of the service provided by you, the physician? How have you helped them understand that?

7. Adopt and Institute Leadership

Dr. Deming has categorized the causes of poor quality in the many organizations for which he has consulted over the years. In his earlier work he said 85% of the problems are the responsibility of management and 15% are the fault of the employees. His more recent assessment, reflecting his increased involvement with service functions, is that the mix is 94% and 6%, respectively. It is not scientific, of course, but in the context of the entire concept it makes sense.

The workers do not decide to buy second-rate components from suppliers; the employees do not decide to ship material that does not meet specifications just so the supervisor's quota can be met and the bonus earned. Investments in training for employees, decisions about the quality of supervision, and the willingness to listen to employees suggestions and make improvements are responsibilities of management; all have big impacts on the quality of the final product or service. In relation to health care it should be clear that physicians are part of management and must fulfill the responsibilities assigned to that role.

8. Drive Out Fear

This principle follows directly from the preceding principle, especially with respect to physician involvement in the quality improvement process. Improvement occurs when there is a willingness among people to speak up when they make a mistake, offer suggestions when they see ways their work could be done better, and consult with people in other units on whom they depend for the flow of their work. All too often however, these things do not occur because of fear of criticism, ridicule, or even the security of one's job. Physicians sit on all sides of this balance, preferring not to acknowledge mistakes, blaming others when things go wrong, and reluctant to propose improvements that impact on the territory of others (or their own). Fear in one form or another can compromise the energies for improvement in any health care setting.

9. Break Down Barriers Between Staff

When a person in one department is overheard complaining about the quality of the work done by someone in another department, that is a sure sign a barrier exists. Such a comment should be addressed only to the person whose work is found unsatisfactory. "That's her job, not mine" also indicates barriers. Physicians are not immune. They need to participate in the kind of communication that eliminates barriers and allows each person in the care process to know whether his or her performance complements the next person's

10. Eliminate Slogans, Exhortations, and Targets for the Work Force

Posters that say things like "Reduce Accidents" or "Improve Quality" communicate nothing. People who see them are offended because they imply that those people do not care whether accidents happen or are unconcerned about quality. Instead of slogans, solid information is needed about what management is doing to make things work better, such as supporting a team trying to understand the causes of medication errors, infections, or delays in the multitude of things in the medical care process that represent quality patient care only if they are done on time.

11. Eliminate Numerical Quotas for Workers and Numerical Goals for Managers

It is important to find constructive ways to use numbers. Numbers are the vehicle by which measurement occurs, and measurement is essential to understanding the current level of quality and how it might be improved. The caution arises when numbers are used both to reward and punish employees, managers, or professionals.

Medicine is beginning to produce various numbers that may create perverse incentives. Using information on hospital readmissions to understand why they occur and whether there are ways to prevent the morbidity they imply need not be threatening. Using essentially the same data to score the performance of an individual hospital or physician may cause the development of attitudes in which an indicated hospitalization would not occur because of concern that the monthly quota of readmissions has been used up.

The per case reimbursement systems such as Medicare's Diagnosis Related Groups (DRGs) also invite misuse of numbers, in this case expressed in monetary terms. When everyone is committed to improvement, numbers become powerful. In the absence of commitment they can significantly limit the improvement of quality and even be counterproductive.

12. Remove Barriers that Rob People of Pride in Workmanship

No reward can exceed the knowledge that the work you do is valued. Being able to take pride in one's accomplishments helps motivate even higher levels of achievement. No incentive compensation program can match that sense of pride. Physicians are in the best position to provide personal acknowledgment of the important contributions made by those who care for patients or support the care process. Allowing people to make suggestions and participate in finding solutions that lead to higher quality helps them be proud of what they do.

13. Institute a Vigorous Program of Education and Self-Improvement

Informed people are more likely to contribute constructively to the improvement process. Dr. Deming says you never know when a pertinent idea will be sparked by an individual's knowledge about an unrelated discipline. Every organization should promote the interests of all its people in expanding their horizons and gaining new knowledge and skills. A hospital or health care setting in which everyone is continually learning and in which a clear sense of what is to be done for the benefit of its patients exists has enormous energies for continual innovation and improvement — strong predictors of success and survival in an uncertain time.

14. Put Everybody in the Organization to Work on the Transformation

It is appropriate that this is the last of Dr. Deming's points because it borrows from all the others and is the call to action. Everyone must be involved in the process of improvement. Each process involves interactions among subprocesses and the people who run them. Physicians cannot be successful with their improvement efforts unless the nurses participate in those efforts, the record room can only do so much without the support of the medical staff, and so on. Unless everyone is involved no one can succeed.

In addition, everybody needs to be involved in the transformation because improvements come mostly in small steps. The most effective improvement processes will be those where everyone is working to make a small improvement, secure it so it does not backslide, and then make another improvement.

At first progress will seem slow and the newest technology will be more showy and maybe have a bigger short-term effect. A comparison of the American and Japanese auto industries is pertinent here. Businesses in both countries adopted essentially the same technologic improvements over 30 years or so; the Americans even had a head start. But the ultimate difference in their products was the 2% or 3% gain in annual quality and productivity the Japanese were able to achieve through devotion to all the little things. Put everyone to work on the transformation. It makes the difference.

CONTRASTING STORIES

The initial orientation to the Hospital Corporation of America quality improvement process is a 2-day workshop. Once the basic concepts have been introduced the participants are organized into small teams, and each team is asked to apply the new methods to design a quality improvemen· fo1 a specific case which, while hypothetical in the details, draws on the experiences regularly encountered by people practicing or working in hospitals.

One of the cases regularly used relates to medication errors occurring in hospitals. Summary data are provided on the number of errors reported by the nursing departments over several months. The team is asked to develop a process to discover the causes of these medication errors, to propose a way to deal with whatever they find to be the most significant cause, and to devise a method to measure the effect of the improvement.

At one of these workshops a participant on the team assigned to this case had a background in hospital risk management. After the team had presented its report, he indicated disappointment in the design of the case. He said that some errors were inevitable and the rate of errors in this case was already as low as it was reasonable to expect.

However, the experience of the managers of a major U.S. electronics manufacturing firm contrast this view. In one of their domestic divisions a machine for soldering components to printed circuit boards was producing defective solder welds about 0.04% of the time and that rate was viewed as too high by the managers of the process. Various attempts were made to adjust the machine so that it would perform at a better rate, but these attempts were not successful and the managers asked for budget approval to buy a new machine. They said there was no way to prevent this machine from making defective welds.

The new equipment was expensive, and the request was carefully scrutinized by those responsible for approving capital expenditures; they finally agreed to make the purchase. The order was placed and the availability of the old machine was advertised to other divisions of the company at a bargain price.

This company had a division in another country, and this other division had begun to practice continuous quality improvement. During a visit to the United States the managers of this foreign division learned that the soldering machine was available as surplus. They looked it over and felt it might have potential. Because the price was right they decided to take a chance and had it shipped home.

Once the machine had been installed in the new site the managers and employees responsible for this equipment began to apply the process of continuous quality improvement to its operation; gradually the rate of defective connections began to decline. Their approach was to study every aspect of the process by which the connections were being soldered and to increase their understanding of the interactions of all the components of this process. They searched for the root causes of variation in the quality of the welds.

By modifying the frame and the clearance to the heat source, improving the quality and consistency of the raw materials used to make the solder, carefully assessing the actions of employees in the operation of the machine, improving training, allowing only a limited number of employees to perform certain critical tasks, changing the design of the circuit board, and making changes to the process only when it had been demonstrated that the thing being changed was responsible for defective welds, the rate of defectively soldered joints declined from 0.04% to 0.004% in 18 months and to 0.0003%

after 5 years. A 99% improvement in the rate of defective welds had been achieved.

Meanwhile the U.S. division purchased the new machine. Once the installation bugs had been worked out they were again able to produce soldered welds with a defect rate of 0.04%. Attempts to improve that rate were not successful. How long that condition may have continued will never be known because company-wide adoption of a quality improvement process patterned after the system now well established in the foreign division eventually allowed a comparable intervention to occur and gradually reduced the defect rate of this machine as well.

COMMENT

Without a quality improvement process there is a tendency to accept rates of defects or errors that may be far above what would be achievable with the quality improvement process in place. The similarity in the attitudes of our student and of the managers of the American division of the electronics firm is striking. Both were willing to assume that the current process was doing the best that was possible. Whether the application of a quality improvement process will produce a conclusion to the medication errors story comparable to that of the soldering machine example remains to be seen. However, until a systematic search for the root causes of medication errors comparable to the exhaustive examination of the reasons for soldering defects has been done, it is not acceptable to suggest that we are doing the best we can. In fact it is almost guaranteed that we are not.

PROCESSES

The quality improvement process incorporates the notion that the production of any service or product involves the operation of processes (20,21). Usually a series of processes follow each other in a sequence leading to the output that is perceived by the end user. Medical services are no exception to this concept as they typically involve a series of discreet steps that in sum constitute patient care. A process is composed of five elements: 1) Suppliers provide 2) inputs on which an 3) action produces 4) outputs for 5) customers.

An example of a process encountered in everyday medical practice follows:

Process	Fill a prescription
Supplier	Physician
Inputs	Prescription for medication
Action	Pharmacy fills prescription
Outputs	Medication
Customer	Patient

Many processes incorporate a series of subprocesses, each of which has five elements. In the pharmacy, for example, there is a process for ordering

drugs, another for stocking them on the shelves, another for keeping records of each prescription filled, and so forth. These subprocesses interact in customer and supplier relationships, and all affect the quality of the service for the final external customer, the patient.

In the physician's diagnostic process there is a subprocess for performing laboratory tests and another for taking roentgenograms. In both cases the physician is the direct customer of the subprocess and the quality of his service depends on the quality of the outputs he receives from these subprocesses. The action components of these two processes are the responsibility of the technicians and the pathologist or radiologist.

THE ROLES OF CUSTOMERS

Having determined that improvement occurs in the action phase of the process, what are the roles of the customers and suppliers? Because quality is defined in terms of the needs and expectations of customers, the customer role is not difficult to discern. The more clearly and completely the customer can state his or her needs and expectations, the better the operator of the action phase can plan and manage the improvement process. It is essential that methods be established for acquiring knowledge about customer expectations and how well they are being met on a regular basis.

When the number of customers is large, for example, patients, a survey may be necessary. If the number is small, however, such as the physicians in a group practice who are the customers of the laboratory, more direct methods would be possible. The objective is to have the most complete and current understanding of customer needs when considering improvements.

External and Internal Customers

In determining how to relate to customers, it is useful to distinguish between external and internal customers. Traditionally we think of customers just in terms of the end users of the product or service. Drivers of cars are customers of automobile companies and patients are customers of the medical care system. However, when the production of the service is viewed as a series of subprocesses, each with its own "customer(s)," the term takes on new meaning. Although understanding the views of the ultimate end user is essential to the overall management of an organization and its quality improvement process, the design of specific improvements is more directly related to how well the people responsible for the action component of each subprocess are informed about the level of quality they are producing for the next subprocess (22).

In the above example the physician is the internal customer of the laboratory; it is the physician's view about how well the laboratory serves the physician's patient care process that will influence improvements in the laboratory. Every interaction between the various functions in an organization

involves a customer, the quality of whose work is affected by the quality of the previous (sub)process (23).

THE ROLE OF THE SUPPLIER

The supplier provides the input for the process. The actions that are part of the process will be as efficacious as the quality of the incoming input permits. The prior care giver, for example, a nursing home, plays a major role in creating the conditions for success of the next care giver, perhaps a hospital. When the hospital supplies the processes that precede those offered by a nursing home, the roles are reversed and the hospital is the "supplier." Thinking this way about prior care givers shows the importance of making "partners" of your "suppliers."

The role of the quality improvement supplier is not passive; the supplier does not wait for someone to complain and then look for a fault in the process. Instead, the supplier seeks information from customers. When the supplier laboratory learns that physicians are not pleased about the turnaround time for stat laboratory tests, the supplier laboratory can work with the physicians to make improvements. Close coordination of internal customer feedback with information about the capabilities of the preceding process will lead to optimum improvement.

This discussion reinforces the need for the commitment to improvement to precede all else. The events suggested here will not occur unless all the people who participate have a single purpose — the continuous improvement of quality.

HOW MANY CUSTOMERS ARE THERE?

There might be a tendency to infer from the preceding discussion that each process has a single class of supplier or customer. Although some customers may be more directly involved than others, most processes have various customers. The external customers of a single patient encounter, in addition to the patient, could include any or all of the following: the patient's family, the referring physician, the hospital, the third party payer, the patient's employer, or the managed care agent. Each has different and legitimate needs and expectations in relation to the quality of physician service, and the total quality of the service involves a summation of the extent to which these needs and expectations are met.

There may also be several internal customers of subprocesses. With services such as physical therapy or dietetics, which involve direct interaction with the patient, both the patient and physician are customers as well as the scheduling clerk and the billing office. Often two functions play both roles in relation to each other. In terms of the clarity and accuracy of the order to the pharmacy or laboratory, the physician is the supplier. The pharmacy should be aggressive in interacting with a physician whose orders are regularly

not interpretable; hospital nurses should behave similarly. The physician becomes a customer of the pharmacy only after a clear and understandable order has been delivered. Understanding all of the subprocesses and sub-subprocesses to the most fundamental level, including the identification of the suppliers and customers of each, can be enlightening. At a minimum it makes improvement feasible.

TEAMS AND TOOLS

The actual operation of the quality improvement process is done largely by the people responsible for and knowledgeable about the process under consideration. This means quality improvement work must occur in groups or improvement teams (24). It follows that progress is directly related to the ability of people to function in groups created to improve something.

A lot of information about helping groups function effectively is available, but many American organizations have not taken advantage of the knowledge. A modest amount of training in the group process followed by a period of conscious application of the technique in a real setting can overcome many of the traditional failings of meetings. Clear purpose, firm agendas, specific time assignments to each item, on-site documentation of the meeting as it occurs, and the use of established group techniques such as brainstorming, nominal group technique, force field analysis, and rank ordering allow meetings to proceed briskly with everyone participating and decisions being produced with minimum wasted energy. A certain amount of training is necessary and first attempts will not be perfect, but those who regularly attend meetings where these methods are used become enthusiastic about how much is accomplished.

Quality improvement is an information-driven process. Jumping to conclusions without facts results in high percentages of wrong decisions with the accompanying wasted cost and impact on morale. Before a team can think about ways to improve a process, a careful and methodical analysis of the current process needs to be done. This involves a clear description of how the process actually operates, as opposed to how we think it operates or how it should operate. It requires the identification of things that might cause the process to not produce the desired output and then a count of the number of times various causes actually appear. It is only a beginning to learn that the output fails to meet expectations. The knowledge needed to make an improvement relates to the cause of the defect — the *root* cause.

Quality improvement also requires an understanding of how the output of the process varies over time. Variation is inherent in every process. Improvement is directly related to our ability to develop knowledge about these variations. Once an improvement is made, information is needed to know the effect of the change and the new level and variability of output that the process has achieved.

To use information productively in a group process it needs to be communicated effectively. Visual displays of information are preferred, and the quality improvement process has spawned or refined several tools for

data display that are both simple and proven over many years of application in various settings. These tools help teams address the issues raised above (25,26).

The fact that the tools are simple and direct allows them to be used by everyone in an organization; this alone is an expression of their power. The following is a brief introduction to tools that would be unfamiliar to people not yet engaged in quality improvement. In addition to the tools discussed here, several other well-known methods for graphic presentation of data are used in the quality improvement process such as histograms, bar charts, and scattergrams. The techniques specifically adapted to the quality improvement process include:

Cause and Effect Diagram

The cause and effect diagram is used to display a large variety of information about a particular issue in a condensed and organized way (27). At the end of an arrow the effect is noted. Each major antecedent cause of that effect is represented by a branch line attached to the arrow line. The diagram represents an effort at logical thinking. It helps in understanding the measurement dimensions involved in an effort to learn about the causes associated with the effect under study.

The creation of a cause and effect diagram can be an individual or a group effort. Often it serves a team as a way of organizing all of its ideas about the causes of an undesired event, (medication errors, late or inaccurate laboratory results) or all of the ways an improvement could be achieved (error free medications, timely and accurate laboratory results). Figure 1 shows a cause and effect diagram for reasons a delay may occur in the initiation of antibiotic therapy for a patient diagnosed in the physician's office as septic.

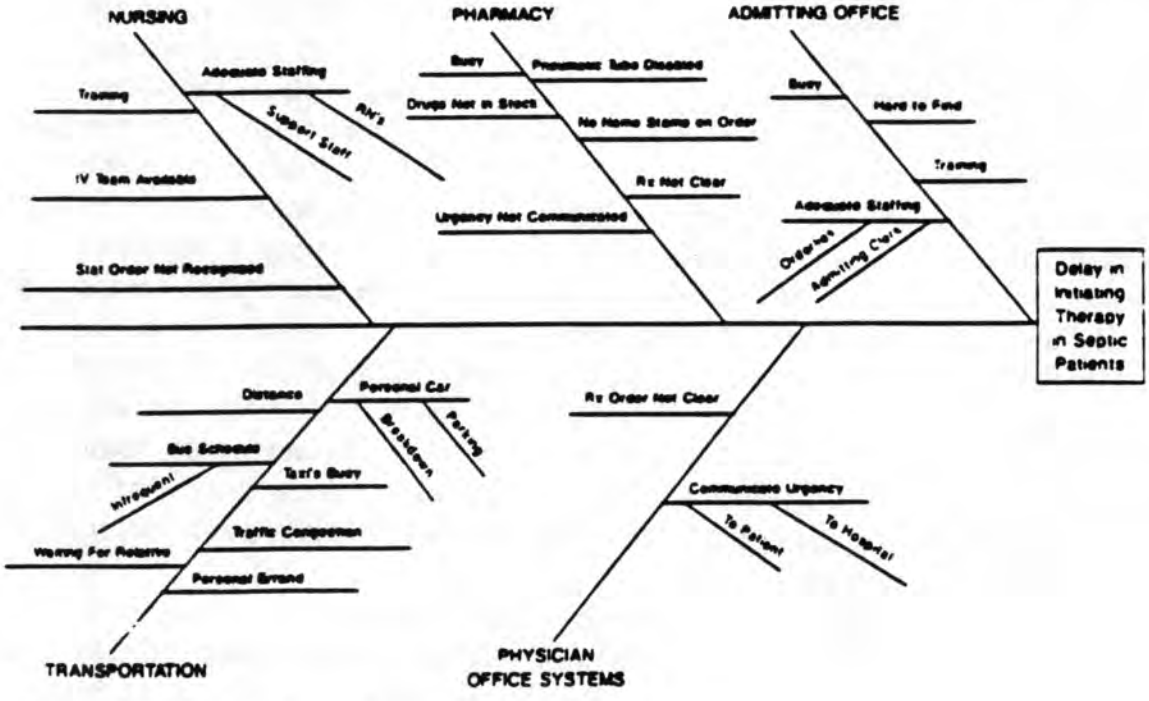


Figure 1. Delay in antibiotic therapy.

Pareto Diagram

A Pareto diagram provides a quick understanding of the relative importance of the variables in a data set (28). It is a rank-ordered histogram with an indicator of the accumulated percentage across the items ranked. It is often used to display data showing the reasons for defects or inadequacies in a process.

The Pareto diagram in Figure 2 shows the reasons for operating room delays in a hospital and the number of times each has occurred. It is typical of a Pareto diagram that the first few reasons represent a large proportion of the total reasons for the problem: these are referred to as the "vital few" compared with the "many others." In this case the first three reasons represent over 80% of the reasons for delay and an improvement effort addressing one of these is likely to make a bigger difference than one addressing any of the lesser reasons.

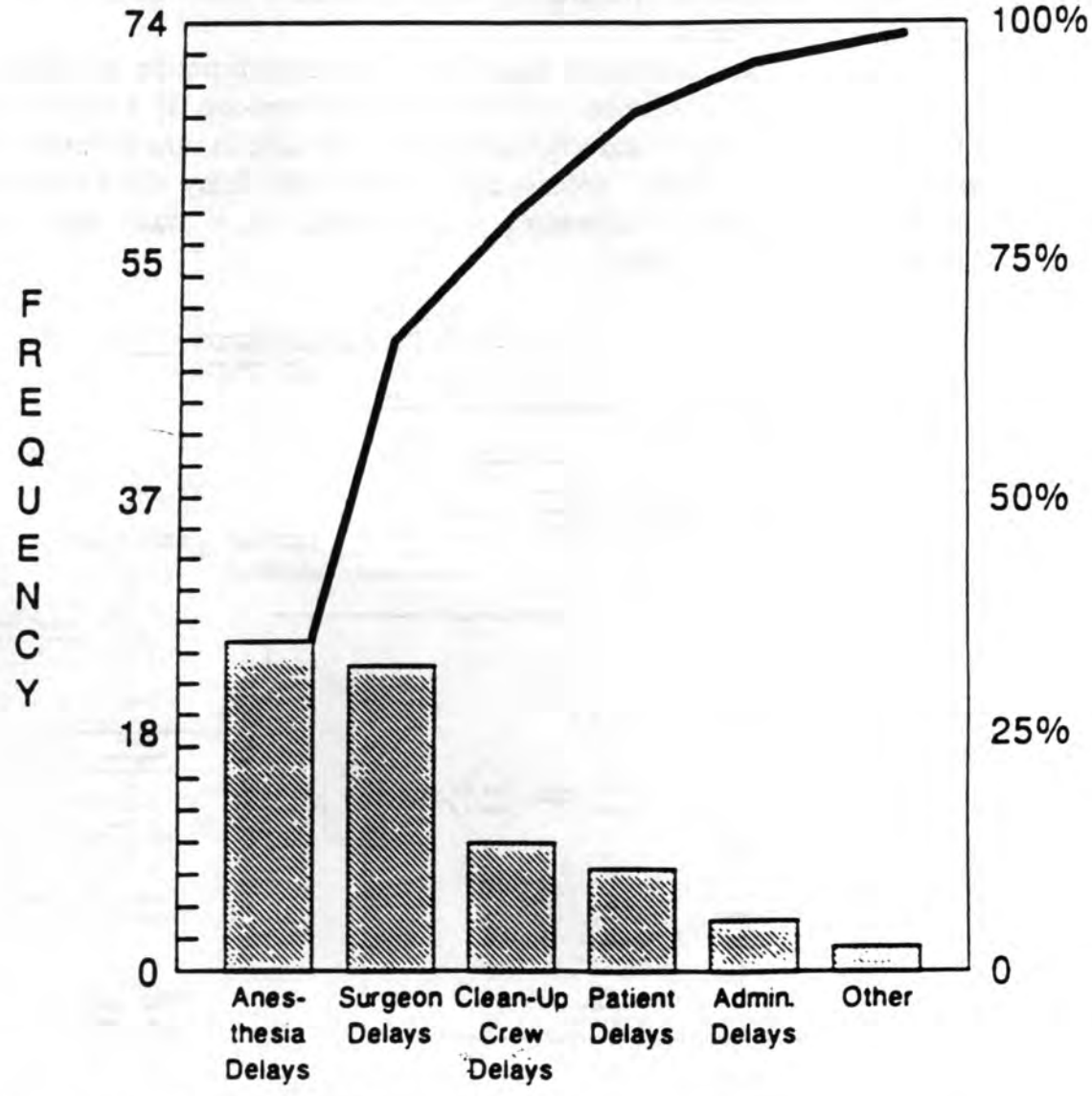


Figure 2. Pareto diagram: Reasons for operating room delays.

Flow Chart

There is a quality improvement cliche to the effect that a process cannot be improved until it is defined (29). Simply defining the process with a group of people who know best how it works can lead to immediate improvements, especially where everyone has a different idea of the process. The physician's office personnel who answer the calls of patients who phone to describe their symptoms and obtain advice about whether to come in is an example.

More often the advantage of defining the process is to see where and how the subprocesses intersect and where there are loops back that occur when the input from one process to the next is not complete or correct. The process for ordering a new medication in the hospital is presumed to be simple: the physician writes the order, it is copied by the clerk, it is delivered by a courier, the pharmacist reads it and prepares the medicine, which is then delivered back to the floor and given to the patient. It works that way sometimes. Figure 3 shows additional levels of the process that come into play when the order is not clear to the pharmacist or when the pharmacist and the floor nurse disagree in interpreting the prescription. These complications are part of the real process.

In medical care the time it takes for processes to function is often critical to the quality of the service. Understanding the process at a level of detail that defines the delays, discovers where they occur, and in turn prompts inquiry about whether a different process could reduce the delay can be rewarding. Thinking about and documenting processes will allow many opportunities for improvement to surface.

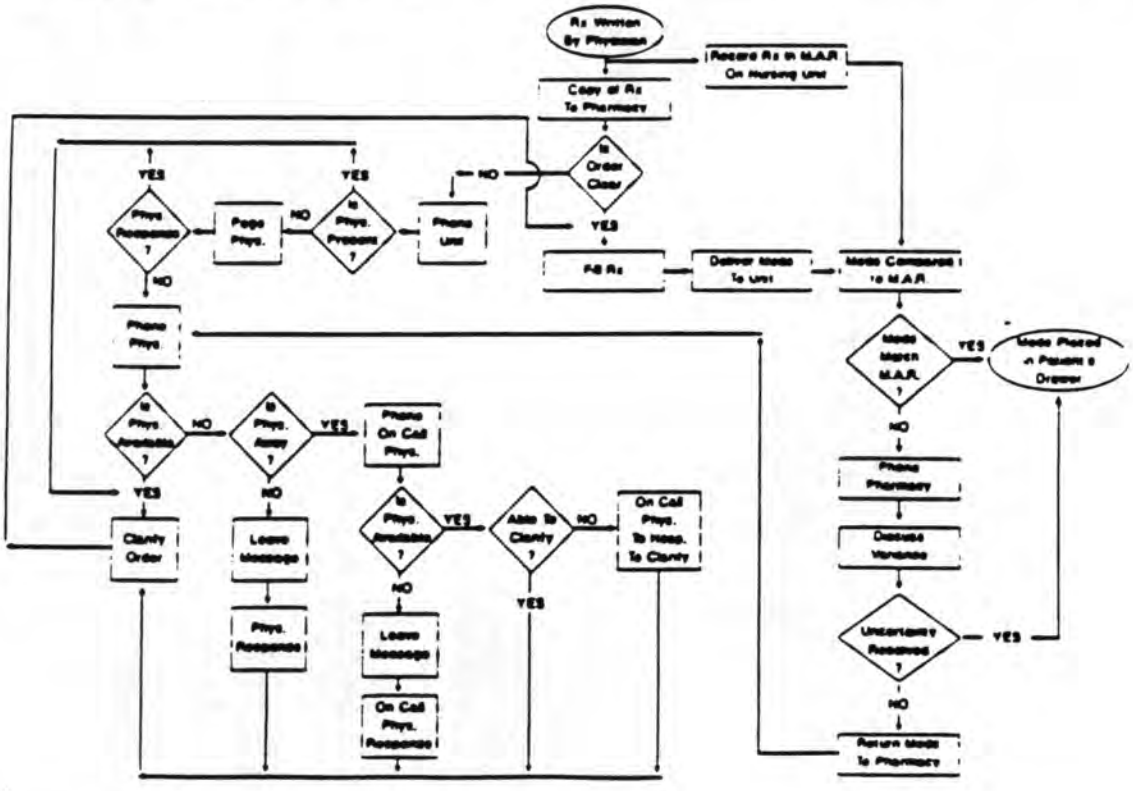


Figure 3. Pharmacy and nursing process when prescription is unclear.

Run Chart

The ability to understand how a process is performing over time is critical to its continuous improvement. Key quality characteristics are those aspects of system output that are significant to the customers of the process and that can be measured on a continuing basis. Data reflecting performance in relation to a key quality characteristic can be plotted on a run chart, permitting easy observation of the level and variability of the output over time (30).

Because data are often expensive to obtain, it is important to identify characteristics of the process that are most important to customers as well as indicative of variations in the quality of the process output. Examples of these quality characteristics include medication errors as a percent of total medications delivered, rate of repeat roentgenograms, minutes between significant events such as time from the physician's order to the completion of the task, number of patient complaints per month, and so forth.

The run chart in Figure 4 shows how trends in medication errors might appear and how valuable it is to have data over longer periods so that trends will become evident. A technical interpretation of this chart would conclude that there is something different between the colder months and the warmer ones. A job of the quality improvement process would be to discover what causes that difference.

Interpretation of a run chart improves with instruction and experience. The most important advice is to not overinterpret the data; variation is expected. So long as variation is without any apparent pattern it is not appropriate to ascribe meaning to high or low individual points. During the early phases of an improvement opportunity run charts help in understanding the extent of variation and identifying perceptible trends or cycles in the performance

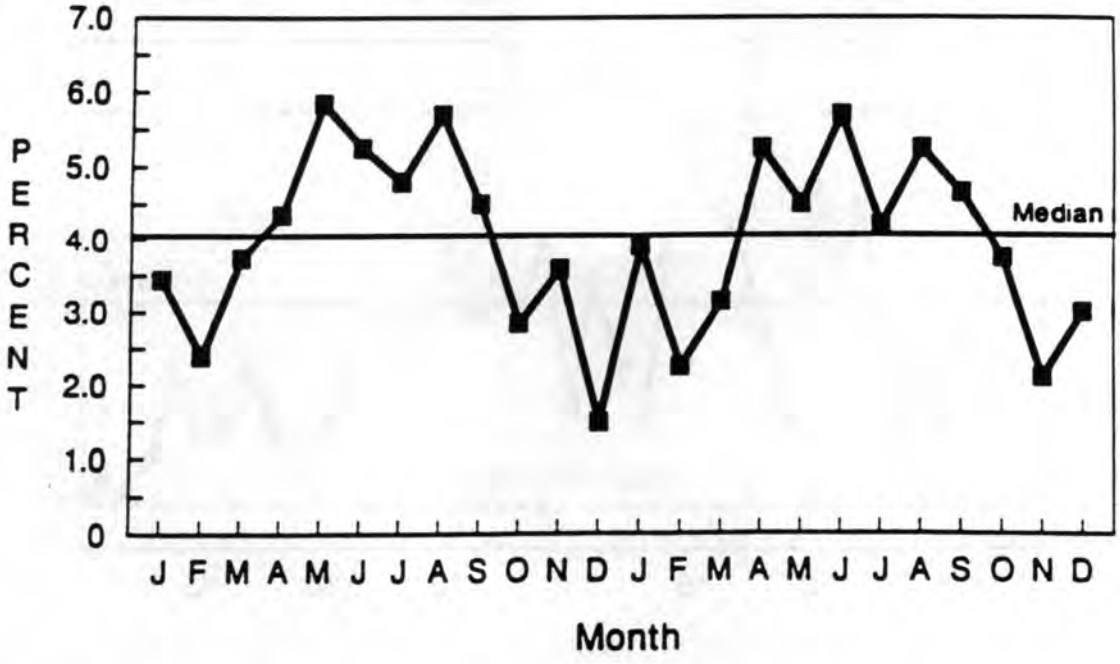


Figure 4. Run chart: Medical errors per 100 patients in City General Hospital.

of the process. Later. the same chart can document whether a change in the process has had an impact.

Control Charts

Quality improvement has its roots in the concepts of statistical process control. The control chart is the graphic component of the statistical process control method (31-33). It is the only tool that introduces a modicum of complexity. It is a statistical instrument and a certain amount of training is needed to understand how to apply the several variations of control charts and to interpret the information they display. These charts are similar to run charts in that the data reflects the performance of the system over time in relation to a key quality characteristic. Again, the display will reveal trends and cycles. An additional feature of the control chart is that it provides information about the predictability of the process. The control limits shown on a control chart reflect the historical variability of the process, and for a process that operates predictably (and with a distribution that is not highly skewed), more than 99% of the points will be within the limits. So long as the points remain scattered within the control limits the variation is almost certainly caused by the variability inherent in the routine operation of the process. If a point exceeds the limit, chances are very good that a special event has occurred to cause performance to change abruptly. Knowing whether variation results from a "special cause" or from routine events is important in determining what action management should take to reduce variation and improve the quality of the process.

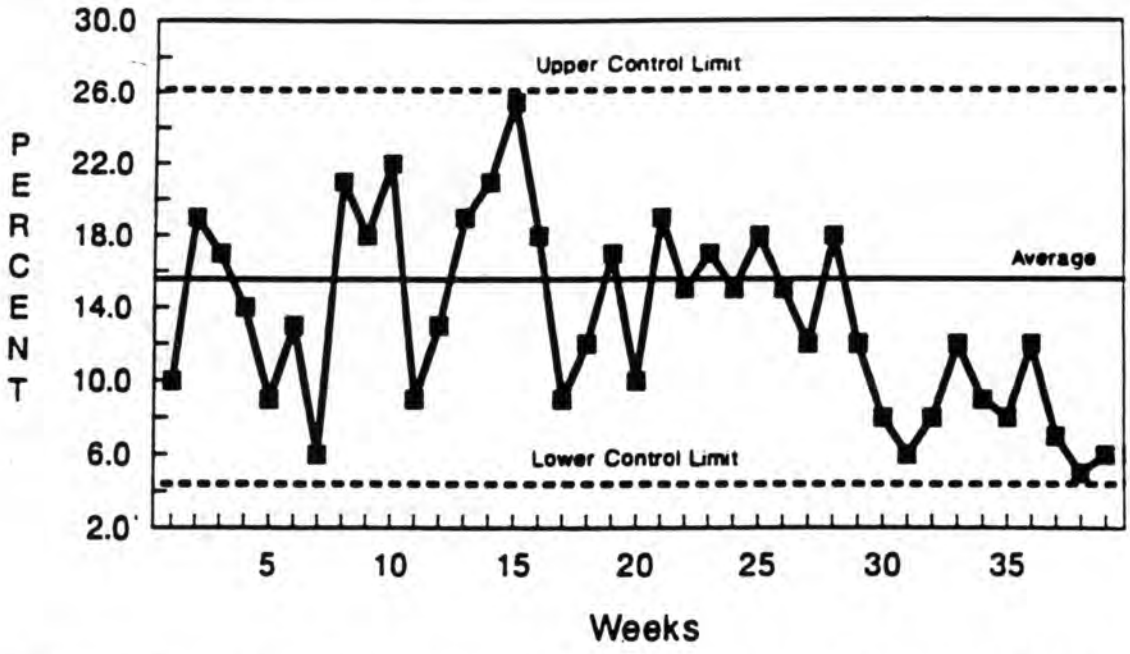


Figure 5. Control chart: Weekly percent of late appointments in the office practice of Jack Jones, MD.

Figure 5 illustrates the application of the control chart to patient waiting time in a physician's office. The quality characteristic being charted is the weekly percent of patients who wait more than 30 minutes beyond their appointment time to see the physician. The control limits reflect the historical variability of the system, which is typified by the first 20 points of the chart. Despite what appears to be significant variation, no point exceeds the control limit, and it is reasonable to conclude from this particular chart that the variation is inherent in the process of running this office. Neither high nor low points are indicative of an unusual event; they simply reflect how the elements of the office routine come together over each weekly period.

The balance of the chart is illustrative of data that would appear as changes are made in the routine process, first to reduce extreme variation and then to lower the rate at which patients are required to wait.

These quality improvement tools need data to be applied. Successful quality improvement teams will be those that can creatively and inexpensively obtain the data necessary to describe variations in process performance in relation to customer needs and expectations. In most cases it is the people who operate the processes who will be both the designers *and* the collectors of the information they need to understand the processes they operate.

CONCLUSIONS

We have suggested that there is a new opportunity for leaders in health care today who wish to make improvements in the quality of what they do. A rich theory base and applications literature are available, but require careful thought before being applied to health care. When these theories are applied, however, significant improvements are possible. These new methods require skill in conceptualizing what is done every day in slightly different terms, working with those who are a part of the daily processes of care, understanding the power of a statistical way of thinking about improvement, and most important of all, being committed to the continuous improvement of everything that is done for patients and other customers of the health care system today.

Acknowledgments: The authors thank the editors for their support and insight, the three reviewers for their thoughtful suggestions, and Kellie Campbell, secretary to the Hospital Corporation of America Quality Resource Group, for patiently keeping us organized.

References

1. Deming WE. *Out of the Crisis*. Cambridge, Massachusetts: MIT;1986:18-21.
2. Shores AR. *Survival of the Fittest*. Milwaukee: ASQC Quality Press;1988:85.
3. Mizuno S. *Company-Wide Total Quality Control*. Tokyo, Japan: Asian Productivity Organization;1988:16-7.
4. Feigenbaum AV. *Total Quality Control*. New York: McGraw Hill;1988:12-4.
5. Mizuno S. *Company-Wide Total Quality Control*. Tokyo, Japan: Asian Productivity Organization;1988:27-8.
6. Shores AR. *Survival of the Fittest*. Milwaukee: ASQC Quality Press;1988:247.
7. Deming WE. *Out of the Crisis*. Cambridge, Massachusetts: MIT;1986:309-10.
8. Walton M. *The Deming Management Method*. New York: Do... ...ad & Co.;1986:40-51.

9. Feigenbaum AV. *Total Quality Control.* New York: McGraw Hill:1988:15-7.
10. Ishikawa K. *What is Total Quality Control.* Englewood Cliffs, New Jersey: Prentice-Hall Inc.:1985:14-9.
11. Feigenbaum AV. *Total Quality Control.* New York: McGraw Hill:1988:149-50.
12. Ishikawa K. *What is Total Quality Control.* Englewood Cliffs, New Jersey: Prentice-Hall Inc.:1985:19-23.
13. Shores AR. *Survival of the Fittest.* Milwaukee: ASQC Quality Press:1988:2-3.
14. Walton M. *The Deming Management Method.* New York: Doss, Mead & Co.:1986:17-9.
15. Walton M. *The Deming Management Method.* New York: Doss, Mead & Co.:1986:10-6.
16. Deming WE. *Out of the Crisis.* Cambridge, Massachusetts: MIT:1986:121, 175.
17. Deming WE. *Out of the Crisis.* Cambridge, Massachusetts: MIT:1986:23-92.
18. Deming WE. *Out of the Crisis.* Cambridge, Massachusetts: MIT:1986:20.
19. Juran MM, Gryna FM. *Juran's Quality Control Handbook.* 4th edition. New York:McGraw Hill:1988:2.8-2.11.
20. Deming WE. *Out of the Crisis.* Cambridge, Massachusetts: MIT:1986:87-8.
21. Shores AR. *Survival of the Fittest.* Milwaukee: ASQC Quality Press; 1988:215.
22. Mizuno S. *Company-Wide Total Quality Control.* Tokyo, Japan: Asian Productivity Organization:1988:252.
23. Imai M. *Kaizen: The Key to Japan's Competitive Success.* New York: Random House:1986:51-2.
24. Sholtes PR. *The Team Handbook.* Madison, Wisconsin; Joiner Associates:1988:1.13-1.20
25. Mizuno S. *Company-Wide Total Quality Control.* Tokyo, Japan: Asian Productivity Organization:1988:154-6.
26. Walton M. *The Deming Management Method.* New York: Doss, Mead & Co.:1986:96-118.
27. Ishikawa K. *What is Total Quality Control.* Englewood Cliffs, New Jersey: Prentice-Hall Inc.:1985:18-9.
28. Ishikawa K. *What is Total Quality Control.* Englewood Cliffs, New Jersey: Prentice-Hall Inc.:1985:42-9.
29. Juran JM. *Juran on Planning for Quality.* New York: The Free Press:1988:18-23.
30. Wheeler DJ, Chambers DS. *Understanding Statistical Process Control.* Knoxville, Tennessee: Statistical Process Controls, Inc.:1986:99-102.
31. Stewart WA. *Statistical Method from the Viewpoint of Quality Control.* New York: Dover Publications:1986:1-79.
32. Ishikawa K. *What is Total Quality Control.* Englewood Cliffs, New Jersey: Prentice-Hall Inc.:1985:70-85.
33. Wheeler DJ, Chambers DS. *Understanding Statistical Process Control.* Knoxville, Tennessee: Statistical Process Controls, Inc.:1986:62-97.

Additional Readings

Deming WE. *Quality, Productivity and Competitive Position.* Cambridge, Massachusetts: MIT:1982.

Garvin DA. *Managing Quality.* New York: Free Press:1987.

Gitlow HS, Shelly J. *The Deming Guide to Quality and Competitive Position.* Englewood Cliffs, New Jersey: Prentice-Hall Inc.:1987.

Juran JM. *Managerial Breakthrough.* New York: McGraw Hill:1964.

Scherkenbach WW. *The Deming Route to Quality and Productivity,* Rockville, Maryland: Mercury Press:1986.

Wadsworth HM, Stephens KS, Godfrey AB. *Modern Methods for Quality Control and Improvement.* New York: John Wiley & Sons:1986.

COMMENTARY

For most of this book, the editors have assembled top authorities in the technical aspects of quality of care measurement. In contrast, Batalden and Buchanan's chapter introduces a management philosophy that integrates quality into the daily operation of an organization. Using the management approach pioneered by Deming, Buchanan and Batalden concisely yet thoroughly outline Deming's theories and demonstrate how they are beginning to be used in their institution, the Hospital Corporation of America. Unfortunately, in our view, only a few other health care institutions, notably Harvard Community Health Plan, have attempted the ambitious yet ultimately cost-saving program outlined in this chapter (1). Other industries have successfully implemented the Deming approach to quality management. Many readers are familiar with the tremendous financial success the Japanese enjoy. In the United States, the Ford Motor Company attributes its record earnings to adoption of the Deming quality management philosophy. We hope, as more health care organizations adopt the Deming philosophy, peer review journals will publish data documenting the efficiency (from an integrated quality and cost perspective) of this critical approach to health care management.

As is true with any management philosophy, the Deming approach cannot be explained simply with scientifically proven data. One of us (N.G.) felt that participating as an observer in the Hospital Corporation of America quality management process represented the best means of tying together potentially abstract theories into management action. Administrators at two different institutions described how they and their employees have begun to work with the Deming management approach. All managers in the hospital attended Quality 101, a 3-day course with an overall objective of helping the manager understand several key principles. First and foremost the customer is king; service improvement begins with identifying who your customers are and what their needs are. In addition, the customer is not only the end user of a particular service. There are intermediate customers as well. For example, many individuals are involved in the ordering, taking, and reading of a mammogram. The last critical principle learned in this course is that data and not "gut facts" should guide the manager toward slow, but continuous improvement in the entire service or care provided to specific customers. This implies that attention is devoted to all employees, all facets of the service in an effort to improve the entire process; not to focus in on the aberrancies.

After the entire management of the institution (imagine essentially shutting down a hospital so that everyone, not just an isolated individual, could learn a new management philosophy based on quality) attended this course, participants were asked to submit three ideas for a quality improvement program. The only criteria were that they be important yet not overly complex to execute. The latter was included as the hospital was just beginning to change management style from a traditional authoritarian style to one that involved all employees as part of the management process (though only managers attend the course, all employees are trained in Deming's quality management philosophy).

The Quality Improvement Process is guided by the Quality Management Council, made up of the senior management of the institution; meetings are held on a weekly basis until the group decides it has completed its task. How do committee members realize that they have completed the project; only when they have completed the PDCA cycle: Plan, Do, Check (with data not just gut facts), and Act (disseminate the results throughout the institution). At the first meeting, committee members decide the objectives or "opportunity statement" for the group. Meetings are expected to start

on time and one of the committee members keeps the discussion to the pre-set (decided at the previous meeting) time. Meetings cannot last more than 1 hour. In addition to the timekeeper and other committee members, there is a recorder of minutes and a leader and facilitator (an outside individual who participates only when the group has difficulty completing its agenda). All positions rotate except for that of the facilitator and leader. After 45 minutes of discussing a pre-set agenda, the members evaluate the meeting (on a scale of 1 to 10 and subjective comments) and plan the agenda for the next meeting.

A quality improvement program on patient discharge represents an example of a topic recently completed at Quincy City Hospital, a hospital owned by the city of Quincy, Massachusetts, but managed by Hospital Corporation of America. The associate administrator of the hospital, Ms. Ellen Zane, was the leader of this group. The opportunity statement (project objective) for this quality improvement program was

> Within the last several years the Quincy City Hospital has been experiencing difficulty discharging and placing many of its Medicare patients into community placements once they are no longer at a hospital level of care and once they can be no longer cared for at home.
>
> The result of these Medicare patients remaining in the hospital post their acute illness is twofold. Firstly, their extended hospital stay creates a financial burden for the hospital as reimbursement for the continuing care of such patients is minimal. Secondly, admissions of other acute patients may be impacted because necessary beds are occupied by this population.
>
> It is necessary for the hospital to develop systems and strategies to improve the rapidity with which Medicare patients are discharged and placed within the community. (From a mimeo provided by Ellen Zane, associate administrator at Quincy City Hospital.)

After development of the opportunity statement, the committee members constructed a flow chart that documented the process of care for patient discharge. The team then worked to document the barriers to patient discharge. They used a fishbone chart to clarify the issue. Though the list of barriers appears clear cut, anyone experienced with group process can attest that the development of such a list requires tremendous effort to get a list that is both accurate and comprehensive yet receives group consensus. Very often each committee member initially has a differing conception of, for example, barriers to patient discharge. The achievement of consensus in such a project goes a long way to achieving the objectives enunciated in the opportunity statement.

With the completion of the fishbone chart, the team then collected data from which it developed a what, who, when, and why chart. This chart summarized what the team would do as a consequence of its planning process. The team next checked the actions that were taken on a pilot basis with further collection of data. This second set of data led to a reexamination of the pilot actions taken. Final recommendations were presented to the quality improvement council for dissemination throughout the institution. This final step is currently underway.

Is the Deming approach to quality management too mechanical and long-winded? Absolutely not. The enthusiasm and participation of each employee were impressive; the knowledge each committee member brought to bear on the meeting both in terms of the problem and quality improvement principles — words like hypothesis, Pareto chart, and variance evaluation swept through the room with precise technical responses sent back in response.

The broader and more difficult question with regard to the Deming approach to quality management is whether all constituents of the health care team, in particular

the physicians, are willing to wholeheartedly work with Deming's principles. With adequate preparation — of the type which managers working for Hospital Corporation of America and Harvard Community Health Plan currently undergo — the answer is a qualified yes. However, it is helpful to point out salient characteristics of physician behavior that work both for and against the Deming approach. In so doing it will become clear why the physician is the most challenging professional to convert to the Deming philosophy, in particular, as compared with the nurse, clerk, or other essential team members.

The physician is historically and traditionally perceived to be the leader of the health care team (2). This can be both a strength and weakness. It can be a strength if the physician perceives a team to be in existence; this implies an element of negotiation even if the physician leader often tends to be authoritarian. The physician as leader concept can be a weakness when, as is often the case, neither the physician nor the clerk, for example, perceive a team to be in existence. It is easiest to create a team relationship with a physician when he or she is on salary (almost 50% of all physicians in the United States). With societal demands for physician accountability rising and increased salary pressure on physicians, team relationships between physicians in private practice and nonphysicians may be easier to develop in the future.

The role of the physician leader has been problematic not only because of his or her role vis-à-vis other members of the health care team but also because of the quality of the peer relationships. Historically, physicians have often been in economic competition with their peers as a result of the incentives inherent in the current fee-for-service system (4). In addition they have had difficulty confronting clinical deficiencies in their peers. Once a physician in good standing, always a physician in good standing. The Deming management philosophy demands that all team members articulate concerns, which when backed up with "actionable" data, are dealt with by all team members. Physician attitudes represent a critical potential barrier to patient discharge. Changing these attitudes requires effective peer relationships.

Does the Deming philosophy represent "cookbook" medicine? It is clear to me that such is not the case. The authors instead are urging the continual improvement of all the processes that affect the care of patients based on the application of the best scientific thinking. However, the maxims outlined by Batalden and Buchanan could be perceived as such by physicians. Physicians have had historical difficulty with protocols or any management approach that limits their clinical freedom of action (4). "Administrators who try to contain costs... are commonly perceived by physicians as impediments to progress and good clinical medicine, while they in turn are likely to view their physicians as extravagant and unmindful spenders" (5). Current efforts at utilization and peer review are often, understandably, met by physicians by a "how can I beat the system" attitude. Such an approach immediately dooms to failure any effort at implementing the Deming approach, emphasizing slow but continuous improvement in all aspects of the health care organizational process.

This commentary and Batalden and Buchanan's chapter will not sell physicians on the Deming approach. Rather it is meant to make interested readers aware of a management philosophy that can tie the technical aspects of quality of care measurement into daily management practice. We hope readers will be open to the philosophy, and some may even pursue further study in this management approach that has been so successful for many nonhealth care industries.

Though physicians memorize mounds of data, they often make clinical decisions on the basis of "gut facts." Unfortunately, most physicians in clinical practice do not learn the basics of statistics and thus often mistrust the application of scientific studies to the individual clinical setting. "My patient is different" represents a common physician refrain to a query from a peer review organization.

Physicians have been traditionally suspicious of organizational efforts to improve clinical care (6). This partly emanates from the American tradition of solo practice. It is also reinforced by our medical training and exposure to malpractice, which emphasizes that an individual physician bears responsibility for the entire care of the patient or maloccurrence. In fact, health care is too complex for one individual to be responsible for the factors affecting a patient's well-being. The passage of Medicare and Medicaid and the trend toward physicians on salary will facilitate an increased level of comfort between physicians and organizational behavior (7).

Can clinicians — nurses, physicians, and so forth — feel comfortable in an environment where they are only a part, albeit a critical one, of a team? In my opinion, clinicans do not have the luxury of this choice anymore. Health care delivery is too complex, costly, and effective to be left solely to the discretion of the clinician members of the team. We need to involve all members of the health care team, whether they be located in private offices or tertiary care hospitals, if medical care delivery is to truly aim at continuous improvement in the quality of care delivered to our ultimate health care customer — the patient. (The Editors)

References

1. Berwick DM. Continuous improvement as an ideal in health care. *N Engl J Med.* 320:1;53-6.
2. Shorter E. *Bedside Manners: The Troubled History of Doctors and Patients.* New York: Simon and Schuster; 1985.
3. Starr P. *The Social Transformation of American Medicine.* New York: Basic Books; 1983.
4. Anderson OW, Gevitz N. The general hospital: a social and historical perspective. In: David Mechanic, ed. *Handbook of Health, Health Care and the Health Professions.* New York: Free Press; 1983:311.
5. Friedson E. *Doctoring Together: A Study of Professional Social Control.* New York: Elsevier; 1975.
6. Friedson E. *Professional Power: A Study of the Institutionalization of Formal Knowledge.* Chicago: University of Chicago Press; 1986.
7. Colombotos J, Kirchner C. *Physicians and Social Change.* New York: Oxford University Press; 1986:115-62.

Quality as a Business Strategy

Thomas W. Nolan

"Once leaders in the world, American companies have lost command of markets to international competitors. Though macroeconomic factors like the exchange rate and trade policies have harmed our ability to compete, a strong case was made that these problems were chiefly the result of ineffective management practices as well as the cause of other problems. There are businesses and markets in which U.S. companies no longer compete at all. Those who try to compete find that working harder is not enough, that fundamental changes are necessary." Thus says a report of the Seventy-fourth American Assembly held November 19-22, 1987.[1]

There are many things happening relative to quality. Changes in the last ten years include:

- more focus on quality and customer satisfaction
- increased numbers of people involved in improvement of quality
- greater teamwork
- greater coverage in newspapers and magazines
- the Malcolm Baldridge national award for quality
- intensified training and education
- use of statistical methods for improvement of quality

The benefits from these changes are documented. However, these changes have been somewhat disjointed and the competitive position of many of our organizations has not improved substantially. There is a much greater awareness now of the urgency for fundamental change in the way that organizations are operated as called for by the American Assembly.

The fundamental change that is needed is that quality is adopted as a business strategy. This strategy is applicable to all types of organizations including manufacturing and service companies, schools, hospitals, and government agencies. The aim of this strategy is to enable the organization to produce products and services that will be in demand and to provide a place where people can enjoy their work and take pride in its outcomes.

Quality becomes the means to accomplish other goals and objectives of the organization such as increased profits or share of the market, growth, better educated citizens, a cleaner environment, lower costs, higher productivity or increased return on investment. Deming (1986, p. 3) refers to this as the quality chain reaction. Traditionally increased quality has

---

[1] The American Assembly was established by Dwight D. Eisenhower at Columbia University in 1950. Each year it holds at least two nonpartisan meetings which give rise to authoritative books that illuminate issues of United States policy. An affiliate of Columbia, with offices at Barnard College, the Assembly is a national, educational institution incorporated in the state of New York. The Assembly seeks to provide information, stimulate discussion, and evoke independent conclusions on matters of vital public interest.

been thought to come only at the expense of lower productivity and higher cost. This misconception is in part a result of trying to improve quality by inspection or by solving problems rather than by improvements of products and processes.

If quality is to become a business strategy, the top managers of the organization must understand quality as a strategy and provide leadership for carrying out the strategy. Some important attributes of the strategy include:

- provides methods to reach the goals of the organization
- can be sustained over the long-term
- balances an internal and external focus
- compatible over different businesses in the organization
- remains useful despite changes in the marketplace
- can be understood and practiced by all members of the organization

The aim of this paper is to set quality in the framework of a strategy using three basic elements:

- the foundation of the strategy
- the organization as a system
- the methods to insure that changes result in the improvement of quality

The Foundation of the Strategy

Five important methods to improve quality are

- design of a new product
- redesign of an existing product
- design of a new process (including service)
- redesign of an existing process
- improve the system as a whole

It is usually quite easy for people to list the products they make or services that they deliver and also to describe the processes that produce them. It is much more difficult to know how to improve the quality of the products or services. Should a new product be designed or should the process that produces the product simply be redesigned? Should some improvement be made to the system as a whole? The five activities listed above may be carried out within various parts of the organization. These efforts must be coordinated and focused on a common purpose. The foundation of quality as a strategy that provides the focus for these five activities is **ongoing matching of products and services to a need.**

Identifying the Need

The product that I produce may be a slide rule. To improve quality it is important that I know that the need the product fulfills is hand-held computation. Analysis of competitive products should not be limited to other brands of slide rules but should include abacuses and calculators which are also aimed at fulfilling the need for hand-held computation. It would be easy to think that the need is for a slide rule.

The need may be for personal transportation, for the disposal of garbage, for a pleasant environment in the workplace, for transfer of knowledge, or for the separation of chemical mixtures. The need in the marketplace or in society that the organization intends to fulfill provides the target for the matching and the permanence for the strategy. If the strategy is to be sustained over the long-term, then the need should be one that will persist over a long period of time.

There are often several products or services in the marketplace at the same time aimed at the same need. Table 1 provides a list of needs and a product or service that is intended to fulfill each need.

Customers follow from the need. Potential customers are those who possess the need. There are usually many ways to satisfy a need. For the needs listed in Table 1, one can easily think of products or services other than the ones that are given that also match the need. For example, automobiles and bicycles are aimed at the need for personal transportation and ceramic tile and carpet are aimed at the need for decorative floor coverings.

The statement of purpose of an organization should articulate the need the organization intends to match. This allows the organization to look beyond its present products and services and provides a vision for innovation. It is usually much easy for an organization to list their present products and services than to define the need that these products and services are intended to match. The following questions are helpful in defining the need:

- What are your present products and services?
- How do people use your products or services?
- Why do they want them?
- What different products or services could be used instead of yours? (This question does not refer to the same products or services offered by your competitors.)

There must be a balance between a definition of a need that is so abstract that it is not useful and a definition that is so specific that it leads the organization to believe that the need is for <u>their</u> products and services.

Defining Quality

If quality is to be improved by better matching of products and services to a need, then quality must be defined relative to a specific need. This definition of quality consists of a set of measurable characteristics, sometimes called quality-characteristics.

Some quality-characteristics relative to the need for hand-held computation would be speed, accuracy, complexity of the computation, clarity of display of results, and ease of handling. A distinction should be made between quality-characteristics for a need versus a specification for a specific product or service. For example, a specification for a slide rule might be how easily the center bar slides.

Table 1

Need as a Target for Products and Services

Need	Product or Service
Access to the home	Automatic garage door opener
Transfer of knowledge and promotion of life long learning	Elementary education
Health care	Hospital
Information about the important affairs of America and the world	Newspaper
Information about demographic patterns	Survey
Separate chemical mixtures on a small scale	High technology filters
Paying routine bills and paying for routine purchases	Checking account
Personal transportation	City bus system
Decorative floors	Vinyl tile

David Garvin (1987) proposed eight dimensions of quality to help people to define quality of products and services. They can also be used to define quality relative to a need. One of his aims in developing the list was to broaden people's perspective when they list characteristics that relate to quality. Plesk (1987) made some modifications to these eight dimensions. Table 2 contains an expansion of these dimensions. Some of the additions to the list are merely subheadings under one of Garvin's original dimensions, for example, time could be a subheading under performance. They are listed separately for emphasis and ease of using the list.

To define quality relative to a need, one should develop a list of quality-characteristics and then check the list against the dimensions in Table 2 to test for comprehensiveness. A list of quality-characteristics for a specific need does not have to contain all of the dimensions in Table 2. Garvin makes the point that to compete on quality an organization

Table 2

Dimensions of Quality

Dimension	Meaning
1.Performance	Primary operating characteristics
2.Features	Secondary operating characteristics, added touches
3.Time	Time waiting to get into line, time from concept to production of a new product, time to complete a service
4.Reliability	Extent of failure free operation over time
5.Durability	Amount of use before replacement is preferable to repair
6.Uniformity	Low variation among repeated outcomes of a process
7.Consistency	Match with documentation, advertising, forecasts, deadlines, or industry standards
8.Serviceability	Resolution of problems and complaints
9.Aesthetics	Characteristics that relate to the senses such as color, fragrance, fit or finish
10.Personal Interface	Characteristics such as punctuality, courtesy, and professionalism
11.Harmlessness	Characteristics relating to safety, health, or the environment
12.Perceived quality	Indirect measures or inferences about one or more of the dimensions; reputation

must determine what dimensions are important to the group of customers (segment of the market) on which the organization is focusing.

Table 3 contains some quality-characteristics for various needs.

Table 3

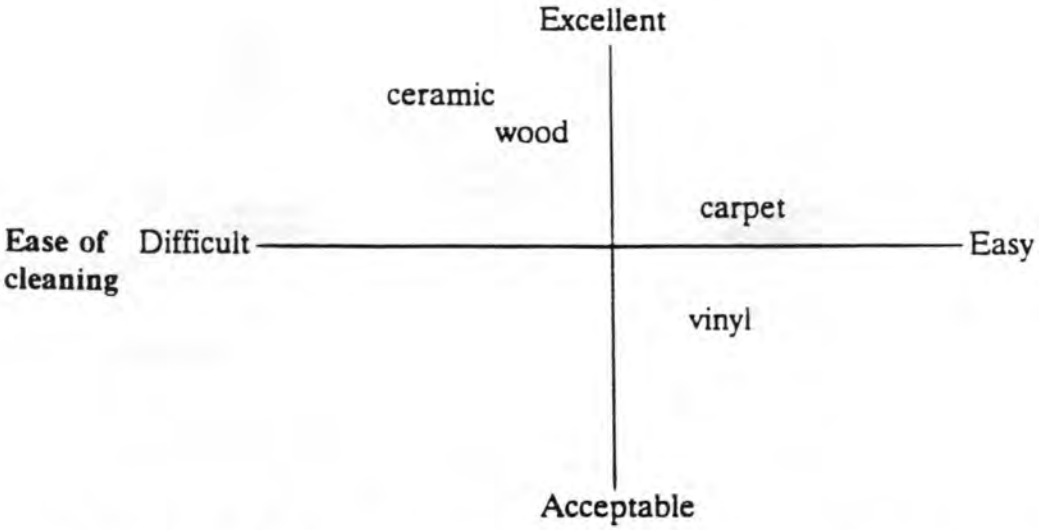
Quality-Characteristics

Need	Quality-characteristics
Decorative flooring	Stain resistance Appearance Consistent with fashion trends Ease of cleaning Resistance to scratches Time until replacement Ease of installation
Pay for routine purchases and pay routine bills	Diversity of bills and purchases Ease of access to funds Security of funds Ease of record keeping Availability of credit Time to make the payment
Health care	Extent of prevention of health problems Ability to diagnose health problems Ability to solve problems Personal interface • concern and caring • courtesy • professionalism Level of anxiety during treatment Duration of treatment Access to care

Quality is improved as the matching between products and services and the need is improved. The degree of matching is determined using the definition of quality. Figure 1 is an example of comparing the quality of four products, vinyl tile, ceramic tile, carpet, and stained hardwood. Quality is determined by the degree of matching to the need for decorative floors using two quality-characteristics: appearance and ease of cleaning.

Figure 1

Comparing Floor Products



It is the aim of customer research to understand how customers define quality and how this definition differs among different groups of customers. The comparison in Figure 1 could differ widely among different individuals. When performing the matching, the following aspects must be considered:

- definitions of quality will differ among individuals
- definitions of quality will change over time
- an important part of matching is selecting a price for the product or service that the customer is willing to pay
- in the dynamic environment that we live in, the matching must be **ongoing**

The foundation of quality as a strategy is the ongoing matching of products and services to a need. Once the need is determined and quality is defined relative to that need, then matching of products and services to that need can begin. To successfully perform this ongoing matching the organization must operate as a system. This is the second key element of the strategy.

The Organization as a System

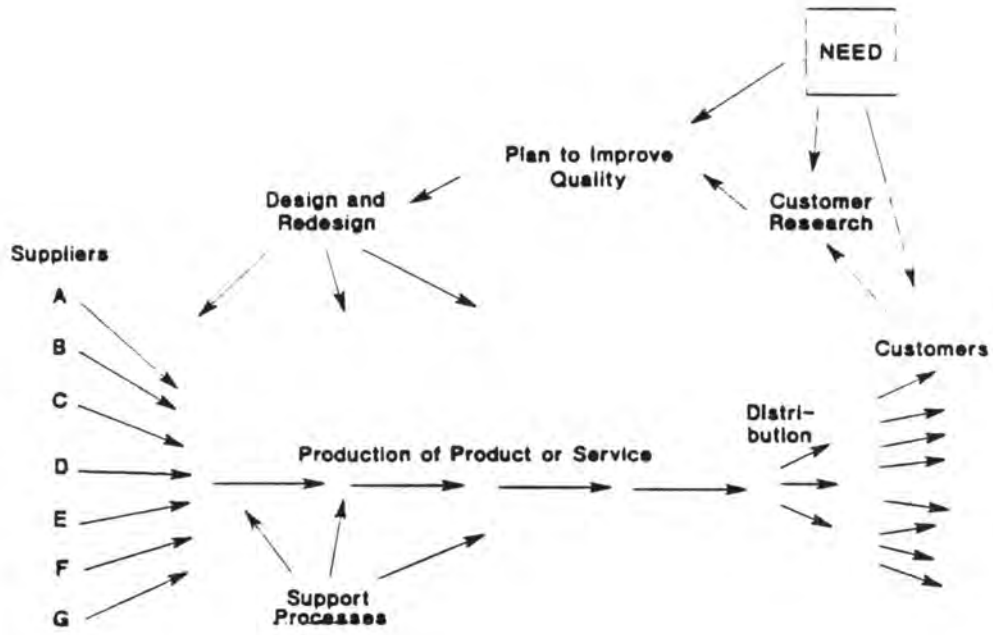
For purposes of this discussion a system will be defined as follows.

> A **system** is an interdependent group of items, people, or processes with a common purpose.

Figure 2 depicts an organization as a system. This figure is a slight modification of Deming's Production Viewed as a system. (Deming 1986, p.4)

Figure 2

The Organization Viewed as a System



Some important aspects of quality as a strategy that are depicted in this figure include:

- the need is the primary focus and provides the aim for efforts of improvement of quality
- the matching of products and services to the need is ongoing, the system is closed loop
- suppliers and customers are closely connected to the system
- customer research and planning are prerequisites for the improvement of quality
- improvement of quality results from design or redesign of some aspect of the system
- everyone in the organization should participate in improving quality

To manage the organization as a system is essential to quality as a strategy. There are

usually fundamental changes to be made in an organization before it actually functions as an integrated system. There are many forces that promote suboptimization, that is, parts of the organization functioning without regard for what is best for the entire organization.

The organizational chart itself depicts the organization as a group of independent departments rather than the organization as a system of linked processes. When the organization is viewed as a system internal customer\supplier relationships can be identified. The organizational chart depicts the boss as the customer.

Some of the other causes of suboptimization include:

- people not knowing the purpose of the organization and how their work relates to it
- technical or functional shortsightedness
- well intentioned management systems that actually promote short-term thinking or a narrow point of view
- internal competition
- optimizing a single measure of success (such as profits) rather than simultaneously optimizing multiple measures of success

Some aids to making the organization perform as a system are discussed below.

Constancy of Purpose

Constancy of purpose is the first of Deming's fourteen points and the one he states is the most important.

A system has been defined above as an interdependent group of items, people, or processes with a common purpose. If the organization is to function as a system, then everyone in the organization must know what the common purpose of the organization is and how their work helps achieve the purpose. This understanding of purpose is facilitated by the development and communication of a statement of purpose. This is the responsibility of the top management of the organization.

There are many ways to articulate the purpose of an organization. A three part format for a statement of purpose that has been found to be useful in a variety of organizations is the following.

1. A mission statement containing the need in society or in the marketplace that the organization intends to fulfill.

2. A set of beliefs, values, or guiding principles that set the boundaries within which the mission will be accomplished.

3. A vision of how the organization will be structured or will behave in the future to accomplish the mission. (This is particularly important for organizations undergoing change.)

See Pascarella and Frohman (1989) for some guidance on developing and communicating the purpose of the organization.

Simply stating and communicating the purpose of the organization is not enough to obtain constancy of purpose. Providing the environment so that everyone in the organization can work towards the purpose will also be necessary. It is easy to get bound up in problems of today and forget that the long-term existence of the company will depend an allocating resources to the future. These resources are directed at finding better ways to meet the need. Deming points out that improving only operations will not be enough.

"It is possible and in fact fairly easy for an organization to go downhill and out of business making the wrong product or offering the wrong type of service, even though everyone in the organization performs with devotion, employing statistical methods and every other aid that can boost efficiency." (Deming 1986, p.26)

The establishment of constancy of purpose is aided by

- communicating throughout the organization the purpose that the organization intends to fulfill
- having this purpose provide the aim for all efforts of improvement
- allocating resources for research
- allocating resources for education and training
- balancing the short term needs of the organization with long-term improvements in products and services.
- providing opportunity for everyone in the organization to participate in improvements

Cooperation Within the Organization

The foundation of quality as a strategy is the ongoing matching of products and services to a need. Anyone possessing the need is a potential customer of the organization. These customers are usually external to the organization.

When the organization is viewed as a system, it is easy to see that there are substantial interdependencies among people and departments within an organization. It becomes apparent that there are customer and supplier relationships within an organization. The work of an individual or a group (supplier) is used by another individual or group (customer) in the organization. The two groups are linked in a supplier-customer relationship.

A powerful force against suboptimization is to instill in members of an organization the concept of internal customers. It aids in alleviating the technical or functional shortsightedness that often results in a disregard for the purpose of the organization.

Cooperation rather than competition among members of the organization must be achieved if quality is to become an effective organizational strategy. Scientists have repeatedly verified that cooperation rather than competition results in higher achievement. These findings include virtually every occupation, skill, or behavior tested (Kohn, 1986). Yet

many organizations continue to encourage competition.

Examples of competition that are common in organizations include:

- commissions on sales
- merit pay
- forced distribution for appraisals or grades
- ranking of plants based on quality audits
- more that one profit center fulfilling the same need

Cooperative Interaction with the Outside Environment

Organizations are open systems. That is, the environment in which the system (organization) is imbedded has an impact on its performance (von Bertalanffy, 1968). Cooperative interaction with elements of the outside environment provide another means of improving the performance of the organization towards accomplishing its purpose. Cooperation between the organization and its suppliers, its customers, government agencies, and its competitors are opportunities for improvement.

There are interdependencies among different organizations attempting to satisfy the same need with similar products or services. They often share common problems. Cooperation among them is essential if their approach to satisfying the need is to remain viable; otherwise they will be competing with each other for an increased share of a decreasing market. The need for cooperation among manufacturers of plastics to find ways to reduce the environmental toll of their product provides an example. Laws may have to be changed to allow cooperation between competing organizations.

Suppliers are also part of the outside environment. Long-term, mutually beneficial relationships with suppliers are essential. Some aims of a relationship with a supplier are:

- lower total cost
- less variation
- better able to meet the needs of the customer
- increase in investment for the future
- decrease in complexity
- mutually beneficial flow of knowledge

Focusing on Multiple Measures of Success

A common force for suboptimization of a system is the attempt to define the performance of the system by a single measure. This measure may relate to the entire organization or to a part of the organization. Examples of measures that often function as single measures of success are: profits, return on investment, price of stock, volume of production, percent of legal cases won, scores on standardized tests, and volume of sales.

Given one measure of success, almost any group can be successful in the short-term by

optimizing that measure at the expense of other measures. Return on investment can be increased in the short-term by decreasing investment in research and development. Volume of production can be increased by cutting back on preventive maintenance or on tests of new products. Scores on standardized tests can be improved by "teaching for the test."

Optimization of a system results in the improvement of a family of measure of success. Taken as whole the measures should be predictors of future success of the company. It is everyone's job to contribute to improvement in the family of measures. These measures should relate to a variety of dimensions of the system such as:

- customers
- employees
- business and financial
- operations
- outside environment

Table 4 contains some examples of measures in each of these categories.

A trucking company listed the following family of measures as their definition of success

- difference between scheduled delivery and actual time of delivery
- accounts receivable over thirty days
- accidents
- breakdowns
- turnover of drivers
- absenteeism
- profits

The company believes that improvements in these measures as a whole will mean success for the company.

It should be noted that the relationships and tradeoffs among the different measures in the family are fixed by the present system. Because of the global nature of the measures, no one person or department is solely responsible for an individual measure. It is the responsibility of management to provide leadership for the ongoing matching of products and services to a need in such a way that the entire family of measures is improved. Planning for quality plays a significant role in accomplishing this aim.

Improving the organization's ability to function as a system provides another way to improve quality in addition to the design or redesign of products and processes. Improvement of quality can also be achieved by changes that affect the system as a whole, such as the establishment of constancy of purpose or the use of the concept of internal customers and suppliers described above.

Table 4
Examples of Measures of Success

Customers
Percentage of repeat customers
Warranties, claims, complaints, returns
Key performance characteristics of the product or service that are global in nature such as
- percentage of deliveries on time
- scores on standardized tests (school)
- degree of return to normal physical or mental functioning (hospital)
- time

Employees
level of experience
level of skills
turnover
absenteeism
measures of inner experience such as the extent to which people take pride in their work

Business and Financial
profits
variance from budget
share of market
return on investments
amount spent on research and development
amount of resources allocated to the improvement of quality

Operations
volume of production
productivity
volume of sales
levels of inventory
amount of overtime
amount of scrap or rework
number of errors
number of accidents, injuries, or near misses

Outside Environment
time allocated to industry groups or advisory groups
amount of community service
amount of discharge of pollutants
number of layoffs
accidents or injuries related to the product or service

Methods to Improve Quality

Thus far two components have been used to describe quality as a strategy :

1. the strategy is based on the ongoing matching of products and services to a need and
2. this matching is achieved by developing the organization into a system that has the need that the organization intends to fulfill as its common aim.

A third element that is needed to make the strategy viable is a set of methods by which to carry out the improvements in products, processes, or the system as a whole.

Three aspects of the system depicted in Figure 2 that relate to methods to improve quality are:

- customer research
- planning for quality
- the design and redesign of products and processes

These three aspects provide the link between day to day operation of the system and improvement of the system. In organizations in which quality is a strategy, they are well developed. In organizations in which quality is not yet at the strategic level,

- customer research is nonexistent, anecdotal, or composed of negative feedback such as complaints or warranty claims,
- planning for quality is nonexistent or separated from business planning,
- emphasis is placed on solving problems or resolving crises rather than making lasting improvements to products and processes.

Customer Research

Customer research should be focused on the need that the organization intends to fulfill. Relying on negative feedback such as complaints or warranty claims is not sufficient. Present customers of existing products and services will be an important source of information; however, the research should not be limited to them. Anyone possessing the need the organization intends to fulfill is a source of information.

The aims of customer research are to:

- identify those possessing the need (identify the market)
- stratify those who possess the need into groups (segment the market)
- define quality relative to the need for each segment using measurable characteristics
- assist in monitoring quality of present products and services
- improve the relationship with customers

The following are some methods to be considered for use in customer research:

- informal conversation

- written surveys
- personal interviews
- group interviews
- observation of people possessing the need
- trading places with people possessing the need

Planning for Quality

When quality is an organizational strategy, strategic planning and business planning include planning of activities to improve quality.

Inputs to the plan include:

- the statement of purpose of the organization
- the organization viewed as a system of linked processes
- customer research
- other information relevant to the need the organization intends to fulfill such as new technology, new government regulations, or changes in the business environment
- information from suppliers
- information from those in the organization, especially with regard to processes most in need of improvement

Outcomes of the plan include:

- guidance on an overall method to reach the objective
- charters for activities of individuals or teams aimed at improving quality
- roles and responsibilities of people involved in improvements
- allocation of resources
- assessment of the need for training

There are many different methods for developing a plan for quality. One process for planning that uses the inputs listed above to produce the outcomes that are listed consists of the following steps.

1. Develop strategic objectives
2. Relate to new or existing products or processes
3. Set priorities for improvement
4. Match resources to the priorities
5. Develop charters for design or redesign of products or processes

This process is based on a process suggested by Hardaker and Ward (1987).

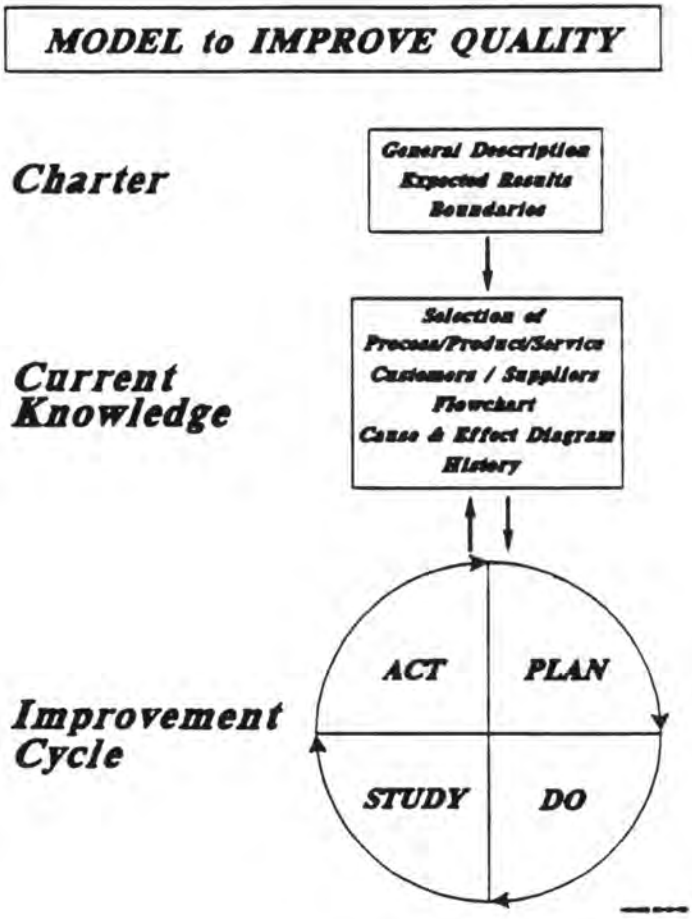
Methods for the Design and Redesign of Products and Processes

Improvement of quality should not be confused with solving problems or "firefighting." Solving problems, although necessary for most organizations, simply maintains the status quo.

Lasting improvements come from design or redesign of processes or products or changes to the system as a whole.

Although improvements in quality result from change, all change does not result in improvement. Changes that result in the improvement of quality come from people with increased knowledge of the system. A model for the improvement of quality based on learning was introduced by Moen and Nolan (1987) and is contained in Figure 3.

Figure 3



The first component of the model is to define a charter for the team or individual that will be involved in the improvement of quality. The charter will provide significant guidance to the team and will help them with many of the decisions that will need to be made during the life of the team.

The second component of the strategy is a summary of the current knowledge of the team. At this stage, the team documents its knowledge of:

- the needs of the customer
- the processes or products that are related to the team's charter

- how the selected process or product works
- the cause and effect system
- the important quality-characteristics

To improve quality, a significant amount of time will be spent increasing the team's knowledge. This new knowledge will then be used to develop an improvement. To gain this knowledge and make the improvements, a series of improvement cycles are performed. Variations of this cycle have been called the Shewhart Cycle, Deming Cycle, and the plan-do-check-act (PDCA) cycle.

The improvement cycle has four phases. First, a plan is developed to increase knowledge of the product or process, possibly by testing a change. Second, the plan is carried out. Next, the data is studied and conclusions are drawn. Finally, a decision is made as to whether the current state of knowledge is sufficient to take action on the product or the process or whether another cycle is needed.

This model provides the framework within which to apply statistical or other methods to develop and implement improvements. Some of these methods are outlined below.

People in the organization who are planning the activities or who are working to make the improvements, need to be able to visualize work as a process and to visualize the organization as a system of linked processes. It is usually easy to think of manufacturing as a process but difficult to think of new product development, forecasting, budgeting, or planning capital expenditures as processes.

Statistical methods such control charts, Pareto analysis, scatter diagrams, and planned experiments will be useful for determining cause and effect relationships related to products and processes. Flowcharts and cause and effect (fishbone) diagrams are useful for summary of the team's current knowledge that is relevant to their charter.

Knowledge of variation and its causes is essential to the improvement of quality. Reduction of variation will often be an important source of improvement. Variation in products, processes, or among people's performance is a result of two types of causes.

Common causes of variation are those causes that are inherent in the process over time, affect everyone working in the process, and affect all outcomes of the process.

Special causes of variation are those causes that are not part of the process all of the time or do not affect everyone, but arise because of specific circumstances.

The responsibility for improvement and the methods of improvement will differ depending on whether common or special causes dominate. Fundamental change is usually needed when common causes dominate and this change is the responsibility of management. Improvements to eliminate special causes and those responsible for the improvements will depend on the specific circumstances that resulted in the special cause. Control charts are necessary to determine if the variation is a result of common or special causes. See Nolan and Provost (1990) for more information on the subject of variation.

Because of the interdependencies in a system, many improvements will come from the efforts of cross-functional teams. Basic skills related to conducting meetings, obtaining balanced participation in teams, resolving conflicts, and making decisions in teams will be needed. See Scholtes (1988).

Leadership to Carry Out the Strategy

The three basic elements of a strategy based on quality have been discussed.

1. The aim is ongoing matching of products and services to a need.
2. This matching is achieved by developing an organization that performs as a system with the need as the target.
3. A set of methods to insure that changes result in the improvement quality.

However, this strategy can not simply be installed or implemented like a new computer system in any organization. There is a need for knowledgeable leadership to carry out the strategy and make it successful.

"The aim of leadership should be to improve the performance of man and machine, to improve quality, to increase output, and simultaneously to bring pride of workmanship to people." (Deming, 1986, p.248) To accomplish this aim a leader will need knowledge in a wide variety of areas. Deming (1989) describes the body of knowledge that is necessary for leadership as "profound knowledge." This body of knowledge contains knowledge of a system, statistical theory, especially the theory of variation, the theory of knowledge, and psychology. A leader does not need to be an expert in all of these areas but should know something about each, how the different areas interrelate, and why they are important for the improvement of quality.

Quality as business strategy is built on continuous improvement in the ability to match products and services to a need. A product that is a good match at present will be outdated in the future. New processes to make the product or deliver the service will be needed to compete in the marketplace.

Intrinsically motivating people to improve the system and its products is one of the tasks of a leader. This intrinsic motivation comes from

- a belief that the purpose of the organization is worthwhile,
- a system that allows people to enjoy their work and take pride in its outcomes,
- an environment that encourages improvement by providing the time for people to participate in improving the system,
- recognition and appreciation of efforts.

As intrinsic motivation is increased there will be less reliance on outside or extrinsic motivator such as bonuses, awards, competition, and the trappings of success. Reliance on an extrinsic motivator often promotes short-term thinking and competition. The extrinsic motivator diverts attention and energy from the purpose of the organization; attaining the extrinsic motivator becomes the aim.

"Someone exercising leadership is probably generating disequilibrium rather than keeping things on an even keel." (Heifitz, 1988) Fundamental change will not happen without disequilibrium, but without leadership this disequilibrium can be destructive. There must be a plan and a role model to follow. There must be leadership by example. Deming (1990) lists the following attributes of a person supplying leadership for quality at any level in the organization:

- has constancy of purpose
- understands how the work of his or her group supports the purpose of the organization
- focuses on the needs of the customer, internal and external
- is coach and counsel, not judge
- removes obstacles to pride in work
- understands variation (avoids tampering)
- is willing to take risks
- works to improve the system
- creates an atmosphere of trust and support
- forgives a mistake
- knows his or her limitations and continues to improve

Summary

Quality has been described as a strategy for a business. This strategy consists of three basic elements

1. the foundation is the ongoing matching of products and services to a need
2. the organization performs as a system with the need as the target
3. a set of methods to assure that changes result in the improvement of quality

Quality is one of the few strategies that possesses the attributes described earlier in this paper. The important aspects of this strategy will be summarized relative to these attributes.

Provides methods to reach the goals of the organization.

The long range goals of the organization are one of the inputs to the plan to improve quality. Shorter range goals are developed at the first step in the planning process. An outcome of the plan is guidance on products and processes to be designed or redesigned. Statistical methods applied within the framework of the model to improve quality (Figure 3) will aid these efforts of improvement.

Can be sustained over the long-term.

The need that the organization intends to fulfill provides permanence to the strategy. If quality is to be a long-term strategy, the need must be one that will exist for a long time. Constancy of purpose is the essential element that focuses the organization on that persistent need and that sustains efforts of long-term improvement.

Balances an internal and external focus.

The need the organization intends to fulfill provides the primary external focus. Improvements in products and processes are made so that products and services produced by the organization better match that need.

Improvement of processes in the organization brings forth the concept of internal customer-supplier relationships. Improvement of these processes is one of the primary means to assure that people in the organization can take pride in their work.

Compatible over different businesses in the organization.

The primary difference in the strategy among different businesses is that the need that the businesses intend to fulfill may differ. The three elements of the strategy remain the same.

Remains useful despite changes in the market.

The fact that the marketplace is dynamic is one reason that strategies that are static in nature or that do not build in organizational learning are difficult to sustain. Quality as a strategy is based on people learning. Although the marketplace is continually changing, there must be an aim or purpose that provides direction and maintains stability. The need the organization intends to fulfill serves this function. By using a definition of quality relative to the need designers of products and processes are aided in looking past present products and services to those that will be in demand in the future.

Can be understood and practiced by all members of the organization.

As part of the strategy, the need the organization intends to fulfill is communicated to everyone in the organization. All understand how their work helps to provide products and services that meet that need. Everyone in the organization works in one or more processes and everyone is given the chance to improve these processes and to better satisfy their internal customers. The model to improve quality (Figure 3) and the methods associated with the model are applicable to the design and redesign of products and processes and to improvements to the system as a whole.

References

Deming, W. Edwards, Out of the Crisis, Massachusetts Institute of Technology, Center for Advanced Engineering Study, Cambridge, Mass. 1986

Deming, W. Edwards, "Foundation for Management of Quality in the Western World", Unpublished paper from his four day seminar. 1990

Garvin, David A., "Competing on the Eight Dimensions of Quality", Harvard Business Review, November 1987

Hardaker, Maurice, and Ward, Bryan, "Getting Things Done", Harvard Business Review, November-December 1987

Heifetz, Ronald, "Interview on Leadership", INC Magazine, October 1988

Kohn, Alfie, No Contest-The Case Against Competition, Houghton Mifflin Company 1986

Moen, Ronald D., and Nolan, Thomas W., "Process Improvement", Quality Progress, September 1987

Nolan, Thomas W., and Provost, Lloyd P., "Understanding Variation", Quality Progress, May 1990

Pascarella, Perry and Frohman, Mark, The Purpose-Driven Organization, Jossey-Bass Inc. San Francisco, 1989.

Plsek, Paul E., "Defining Quality at the Marketing/Development Interface", Quality Progress, June 1987

President's Commission on Industrial Competitiveness, Global Competition-The New Reality, Volume I, U.S. Government Printing Office, Washington D.C. 1985

Scholtes, Peter R., The Team Handbook, Joiner Associates, Madison Wisconsin 1988

von Bertalanffy, Ludwig, General System Theory, George Braziller, Inc., New York, New York 1968

III. NORTHERN TELECOM INCORPORATED

Overview

Northern Telecom Incorporated (NTI) is a subsidiary of Northern Telecom Limited, the leading global supplier of digital telecommunications switching systems. In July 1991 Northern Telecom began its quality initiative, otherwise known as the Excellence! quality/customer satisfaction policy. Excellence! to Northern Telecom means providing both external and internal customers with superior innovative products and services that exceed their expectations (see Excellence! handout). The initiative requires every NTI employee to be involved in continuous improvement through both training and involvement in teams. The purpose of the quality initiative is not only to improve products and services, but also to help Northern Telecom reach Vision 2000, their dream of becoming the leading supplier of telecommunication products and services by the year 2000.

Jack Reynolds is the Vice President of Quality for NTI, whose corporate headquarters are in Nashville, Tennessee. Reynolds is relatively new to the quality arena, having only been in his post for a year and a half, and finds his work quite challenging. "It's almost impossible. People got to where they are by being the way they were, the norm, and they don't necessarily see any reason why they should change."(Reynolds interview, p. 1)

Before NTI began their quality initiative, they studied ten other benchmark companies which included several Malcolm Baldridge Award winners. They developed their initiative without the aid of a consultant because the professionals tend to make it look "too easy."(Reynolds, p. 3) Representative employees from all areas of the administrative staff were invited to help create the initiative. Mr. Mark Henley, Director of Marketing, attended the meetings but remembers nothing about the proceedings. The group adjourned having a top-down model in which the CEO, Dr. Paul Stern, began the cascade by presenting the orientation program to his direct reports in July, 1991. From there the employees move through continuous improvement (CI) training, and then on to formation of continuous improvement teams focusing on business processes within the company. The initiative will have trained all 63,000 employees in the fundamentals of CI by the end of this year. NTI has a "volunteer army" of people it refers to as Excellence! primes who help facilitate the process.(Reynolds, p. 2) The primes are matrixed into the organization and are in constant contact with Mr. Reynolds and the sixteen members of the quality department.

Definitions of quality do not differ within any area of Northern Telecom. Everyone is trying to reach Excellence! by exceeding customer expectations. NTI has even created its own dictionary of quality terms to erase any irregularities within the organization. Short term and long term goals are also shared

within the company. Short term objectives are to reach total customer satisfaction and to reach Vision 2000. A long term goal is to become more focused on prevention rather than just problem-solving. Mr. Reynolds describes NTI's current problem solving technique as similar to the arcade game Whackamo. Once a problem pops up, they try to get at it until another problem comes along. He says this philosophy has become a way of managing priorities. When you switch to the prevention mode, "you're making your life really complex because you're opening up everything for scrutiny."(Reynolds, p. 5-6)

Mr. Reynolds made the interesting observation that "TQM is much more compatible with females than it is with males. It's more nurturing, more consensus. It's not macho. Most male managers are still playing football. It's guerrilla warfare, and that's not the way females play the game, most of them."(Reynolds, p. 6) Possibly the most visible quality improvement team at Northern Telecom is headed by Reynolds' own personal secretary, Mrs. Karen Hickox. Perhaps her success helped lead Reynolds to his conclusion about women and quality.

Mr. Mark Henley, Director of Marketing, was interviewed to represent the views of marketing at Northern Telecom. He admitted that NTI was not marketing and sales focused, but rather a research and development driven company. Marketing was not one of the first to grasp the initiative, but he explained by stating that marketing was not one of the first areas in

which it was rolled out. From his viewpoint the quality initiative has not affected the culture of the organization, and when questioned he could not describe how quality was being used within his department.

Mr. Reynolds views marketing as one of the worst departments at NTI from a quality standpoint. His reasons were that they feel they are already close to the customer, and that they are so busy without having to do quality work also. Several marketing secretaries have had to leave due to nervous breakdowns. He also said that marketing, as well as other departments, may see quality as a threat because NTI is moving toward making customer service a more larger determinate of employee bonuses than it has been previously.

The two Northern Telecom executives had two major discrepancies between their responses. The first dealt with the level of CEO commitment to quality at the corporation. Mr. Henley of marketing stated that he thought the Excellence! program was just fluff at first, but when he saw how seriously the CEO and top executives were taking it, he realized it was for real. Mr. Reynolds, on the other hand, states that when it comes to using the seven tools of quality, the "chairman doesn't think he needs to."(Reynolds, p. 8) Confusion about the issue may stem from the fact that middle management first persuaded NTI to get started on the idea of quality, but the layout of the program gives top management responsibility for

getting it cascaded down the structure. Top management, middle management, and the quality department are all juggling for control.

The second area of disagreement between the two executives regards the stage of development the initiative is in. Mr. Reynolds describes the development cycle as first "a phase of awareness and learning, excitement, and optimism. And then when you start on the implementation phase there's disillusionment, anger, resentment, and you go through a year or two of that. And then you gradually start to make some progress and see some results."(Reynolds, p. 7) He believes they are in the implementation phase, and that is why he has seen a lot of negative reaction. However, judging by Mr. Henley's responses to questions about the quality initiative, half of which were answered "I don't know the answer to that," NTI is still in the awareness stage. Something must be wrong when a Director of Marketing cannot describe the organization of quality within his department and also cannot recall anything about the planning sessions he attended which created the Excellence! program.

In conclusion, Northern Telecom has started in the right direction with their quality initiative, but they have some problems which need to be worked out. From their opulent corporate building to their jumbo-sized office suites, NTI obviously is careful of their appearance. However, if their

quality initiative is only an outward display to appease customers "who are saying that they will deal only with suppliers that have total quality," then it will accomplish nothing.(Reynolds, p. 8) Awareness should always be the first step in a quality process, and judging by Mr. Henley's remarks, it has definitely not reached deep into the marketing department. Also, attitudes may be a hindrance to quality within Northern Telecom. Quotes such as "I'm already quality, I don't need any more, it's other people that need to change"(Reynolds, p. 3) and "I'd get the hell out of here, retire, go and do some consulting maybe"(Reynolds, p. 7) in response to what he would do if he found the perfect female he is looking for to take his position, do not show the type of positive attitude it takes to make quality a success. Northern Telecom must overcome these obstacles before it can enjoy the type of Excellence! program it envisions.

Jack Reynolds - Northern Telecom

FC: OK, well, could I have your full name?
JR: Jack Q. Reynolds.
FC: OK, and what's your official title?
JR: Vice President of Quality for NTI.
FC: OK, and how long have you been with Northern Telecom?
JR: Twelve.
FC: Twelve years, and have you always been in a quality position?
JR: No, as a matter of fact I've been here for about a year and a half. Way back early in my career there was a period, I spent about five years of what I call little Q. It had to do with quality control, quality assurance and liability assurance.
FC: Have you been with any other companies?
JR: Oh yeah. A lot of them. We've moved eleven times in our career. So we've been in New York, Chicago, California twice, Raleigh twice, here, Iowa, lived about everywhere.
FC: What are a couple of companies you've been with?
JR: Rockwell International, ...Radio Company, Memorex.
FC: Have you been doing the same type of..?
JR: No, actually. I hate getting bored so I keep shifting around a lot.
FC: Do you find quality more challenging than any other?
JR: Well, do you mean the big Q?
FC: Yes.
JR: Yes, it's almost impossible. Because nobody wants to do it. People got to where they are by being the way they were, the norm, and don't necessarily see any reason why they should change. So prior positions have mostly been in marketing. I was regional vice president for the company for six years in New York and California. Before that I was what they called Vice President of Customer Service, figure out what that means.
HH: Well, I guess we'll start asking you about quality. What would you say is Northern Telecom's definition of quality?
JR: To exceed customer expectations. That's our goal. To achieve excellence in everything we do, individually and as a team for the customer.
HH: And how would you define value to the customer?
JR: Why don't you say what you mean by value.
FC: Like what, how do you define the customer's expectations?
JR: How do we define it? Well, we don't. They define it.
FC: Then how do you get it from them?
JR: You mean how do we measure whether or not we're achieving, you mean those objectives we talked about? We do extensive customer satisfaction surveys. We get report cards and we have a lot of ...around quality and customer satisfaction. So the value, you could say, the value we'd expect to get would be increased market share, reduced cost, simplified processes, higher profitability, job security, except for the quality person. Change agents don't last very long. They're, you're

complaining, you're whining, or trying to goad people into doing things that they don't want to do. So sooner or later it gets you, right?
FC: So are you saying it doesn't last long because the person who's in the position doesn't like it or the other people don't like your whining?
JR: All people. It's very challenging, and maybe one of the fun parts about it is the affiliation with other quality professionals. When we get together we have a lot in common and you can have a lot of fun, but then you go back to the real world with people who don't have that in common and you're trying to get their bahavior to be different.
HH: Are there some quality associations that, where you meet all these other quality executives, or do you just know them?
JR: Oh, you mean in charge of quality?
HH: Yea, when you said you get together.
JR: Oh, well, we have an extensive organization within Northern Telecom. We have a quality council that has seven representatives from all the major business units. We have four marketing business units, NTI is one of them. We have one in Canada, one in Japan, and one in Europe. And we have three product groups which are principally based in Santa Clara, California, Raleigh, North Carolina, and in Toronto. So we all have senior quality representatives on the council which is the policy steering group, if you will. So then, the way we're organized is around a volunteer army of people in the company who are called excellance primes.
FC: Did you say volunteer? How are they volunteers?
JR: Because they have other jobs. They're in the organization, they have other jobs, and they've agreed to serve part time as excellance primes. We call, our TQM, TQM equals excellence, we just happen to use that term. A lot of people call it reaching for perfection, different corporate slogans. Ours is Vision 2000. It has to be the leading supplier of telecommunication products and services by the year 2000. It's a lofty goal, huh? So then below the vision is a series of core values, and one of them is, here they are. (gives us a list.)
FC: So this is company wide?
JR: Yes.
HH: And all employees have one of these?
JR: They receive one of them as they go through training. When you came in if you noticed that kiosk there, that said excellence on it. You're free to take stuff out of there. There's some little fold up things that explain a little more detail about what this is.
FC: OK, so they don't, definitions of quality don't differ from one department to another?
JR: Definitely not. We use the same language, we have a glossary of terms, we have a definition of most of the things that we're doing. ...you're spread out all over the globe, you're going to get some differences that we'd expect. We want

to encourage individual differences. But before we began the quality initiative about a year and a half ago, we studied about ten benchmark companies and tried to understand how do they get there, what were the problems, what would they do differently if they had it to do over again. And because we were getting a late start in total quality, we said we better try to jump start. We better try to learn from the best and try to skip over the problems they run into. So we, companies like Motorola, Xerox, IBM, Ford, Millican, we looked at all the Malcolm Baldridge award winning companies, for example. And we didn't use a consultant. We decided to do it ourselves, which I think it's probably the right direction. Consultants make it look awful easy in this nice package and slick material, but when they leave you're stuck with it. The initiative is to touch all people. Excellance is everyone's business, no matter what your job is.
HH: I think you already answered the next one, then, about how it's organized.
JR: Uh, let's see, yea.
FC: Let me make sure I understand.
JR: Do definitions differ from one department to another, absolutely not. Now if you went to Raleigh or if you went to England you'd get the same language.
FC: But for the organization of the quality effort, you said that everyone is involved and that you ..
JR: All 63,000 people will be involved by the end of the year, we will have trained 63,000 people in the fundamentals.
FC: And you have a volunteer army.
JR: Yea, and they're called excellence primes. There's about a thousand. Some of the people are assigned to the job almost full time. It ranges anywhere from 80% of their time to 10% of their time.
FC: Are they organized under you or are they organized under each department?
JR: No, they're in the line of organizations for good reasons. I'm already quality, I don't need any more. It's other people that need to change. They may not agree with me.
FC: Do you oversee their meetings, like do they meet, or..
JR: I wish I would have brough down with me the presentation I have, I could have showed you some of the charts in there. We have, they would be matrixed into our organization. In the quality group here we have sixteen people, this is quality/excellence group. And we're contained to evolve what the excellence initiative is, as you'd expect. Continuous improvement in it. And we have quarterly meetings with the excellence primes. We have communications going out to them. They have communications coming back to us. We get status reports on how many people have been trained, basically it would be an orientation of all people. Then we have a two day module of continuous improvement training, basically around the model of, the continuous improvement model that Motorola uses, almost everyone. It's a very standard thing, it's identify your

customer, identify your supplier, on down through, you know. Map out your process which is at the core of most TQM programs.
FC: So you said everyone is involved in it. Do they take their, like if they see an area that could be improved, do they take that to the excellence primes?
JR: See the formation would be orientation, then CI training, and then formation of continuous improvement teams around business processes in the company.
FC: And where do the excellence primes go with their suggestions, do they come to you?
JR: Oh, no, they enact them or they go to their management, depending on how significant the idea is.
HH: But they're empowered to do..
JR: Definitely.
FC: Is that real divisional, do you find that, do the excellence primes try to work together even though they're in different areas?
JR: Oh, we work together, definitely. It's because we have a common purpose, and so does everyone in the company have a common purpose. That's to reach Vision 2000. And this is one of the facilitators in reaching that.
FC: We've kind of been going over the next ones about the quality program. Do you see it as a program or ..
JR: No, we call it an initiative. We avoid the word program although people keep trying to use it, because program tends to indicate a definite end to it. So as I mentioned, excellence equals TQM to us. It's been implemented over a year.
FC: So did you help organize it since you've been here a year and a half?
JR: Yea, we had a huge team to work on this. We had an army working on it.
FC: Now you said about, you looked at the benchmark companies, how long ago was this?
JR: Over the last three years. Started looking maybe five years ago. You know the movement's been around about ten years so as it gained more and more notoriety with the people in the company. I'd say the middle levels began to get interested in it, and finally took it up to senior management and got their support, and I think one of the unique things about the excellence orientation is that the way it's taught is that the manager or supervisors have to teach their people as a cascade arrangement, chairman on down.
FC: Now you said that one of your goals is in Vision 2000.
JR: To be the leading supplier in telecommunications services and products.
FC: Now do you see that as a long term or...
JR: Vision 2000, not too long, eight years.
FC: OK, so what would be a long term goal?
JR: Well, it's a pretty big challenge since the industry is about 300 billion dollars and it's global, so if you have 10% market share you've got a 30 billion dollar company. That would be our goal to reach that in couple decades, I would say, and

try to make a profit.
FC: So what are the improvements as you've seen them, through the quality initiative?
JR: Well, actually, we're just beginning, so in the short term I would say our short term goals in terms of quality, right, not like the business overall would be reaching total customer satisfaction, and getting in a mode of continuous improvement that would drive continuously looking at work processes. Where we're going from thinking of products and organizations and people to thinking more about processes in all areas, not just in manufacturing or design, but in the whole company. And this is a pretty radical change.
FC: So were you hired on for the sole purpose of creating this initiative?
JR: We were, I was hired and the other quality executives in the business units were hired to help implement it, and to continue to develop it, expand it, improve it. One of the conflicts that invariably comes out of this is that if your title is quality and there are customer problems, a lot of people think you should be solving the problems. So that's short term versus long term outlook. And we are a company that's totally dominated by trying to solve problems. And when you do that there's one thing you're missing, and that's preventing problems.
FC: How do you mean that your sole purpose is to solve problems? You mean the customer's problems?
JR: Everything. They're mostly internal.
FC: Internal problems?
JR: It's a very complex business. If you remember reading the book Thriving on Chaos, that's us. It's very chaotic.
FC: So what would be the difference between a company that is, or do you want Northern Telecom, is that a...
JR: Are you familiar with the whackamo game in the video arcades?
FC: Yes.
JR: Have you ever played it?
FC: I've played it a couple of times.
JR: That's our problem solving approach. Here's one, no, it's over there. Nope, over there, go there. Never looking at the underlying reasons. What's behind the processes allowing this to happen? Because this begins to be an addiction, right?
FC: Are one of your goals to...
JR: To get people working on preventive action, underlying process improvement.
FC: So that would be another long term goal to become more of a prevention than a problem solver.
JR: Yes, I would say that would be a very important goal. But there was a recent survey that hasn't really been made public yet, it was sponsored by the American Quality Foundation which is the most prestigious quality organization in the U.S., and what they wanted to find out was, they wanted to understand the American worker, a factory worker, a designer, whatever it might be, what were their characteristics. And upon

characterizing this and looking at how well does the total quality initiative fit in with this, what, is our expectation way out of line with what the workers think. They found out the number one thing with the worker, the most important thing was piece of mind. And so the conclusion that if your HR policies and if your total quality initiative don't achieve or move towards piece of mind for the workforce, you've got a big problem.
FC: And by piece of mind you mean satisfaction with the job?
JR: Everything, with life, with society, with the government, with Khadafi, with everyone. Anyway, out of the survey a very interesting fact came up and that is that the majority of Americans do not like to do things right the first time. They'd rather try, and they enjoy the learning experience of failure, coming from failure. In Japan, it would be 98% would strive for doing it right the first time. In the U.S. it's about 40%. The manifestation of this, if a man picks up a new car or a new something and they go to turn it on, drive it, later something goes wrong and they can't figure it out and they get the instruction manual out and read it. The Japanese always read it first. Even if it takes a week before they ever turn it on. Not Americans. So I think in a way we have a unique challenge in total quality, and we probably can't be cloning what the Japanese are doing.
FC: So that's your reasoning behind our orientation with problem solving rather than problem prevention?
JR: I think it may be one of the root causes of people just waiting for something to go wrong and they'll go fix it. It sort of becomes a way of managing your priorities. Look at your own personal lives. If something goes wrong you fix it. It used to be what people would say if it isn't broke, don't fix it. And now what's the current modern philosophy? If it isn't broke, fix it. But when you do that you're making your life really complex because you're opening up everything. You're examining everything you've ever done before, and saying is this really the right thing to do? I think there's also in TQM, which I think is very, is not a static definition at all of what it is, I think a couple books that occurred to me that relate very closely to total quality are <u>The Fifth Discipline</u>, and <u>The Seven Habits of Highly Effective People</u>. The quality initiative has a very strong ethic base to it. Steve Guveny talks about it in the <u>Seven Habits</u>. And another observation I would make is that TQM is much more compatible with females than it is with males. It's a more nurturing, more concensus, it's not a macho. See, most managers, male managers are still playing football. It's guerrilla warfare, and that's not the way females play the game, most of them. So it turns out that the characteristics of TQM are more compatible with females.
HH: What would you say the overall reaction has been to this initiative?
JR: Oh, geez, do we really have to do this? Oh, yea, I guess so. Sherman says we've got to do it. OK, we'll go to training.

We'll get trained, but geez, we're pretty busy. And we are a company dominated by numbers. We talk about metrics as a means of measuring things. I mean we have numbers like you wouldn't believe. And we spend a lot of numbers generating numbers, dollars, and headcount too. We monitor headcount very closely. Beyond there it's very hard to find metrics, so one of our challenges is to get metrics up to really determine how customer satisfaction trends are going.
FC: Would you say more females, because it's more of a nurturing process...
JR: Yea, as far as the initiative, yea. Definitely. Yea, I think there should be a female in this job. Just find the right one. I'm working on that.
FC: Where would you move to then if....
JR: Oh, I'd get the hell out of here. I'd retire. I'd go and do some consulting maybe.
HH: The reaction, is it getting better as time goes on?
JR: No, I think you could see a lot of brass that show the characteristic of total quality in a typical company. But it usually takes five years, right. There's definitely a phase of awareness and learning, excitment, and optimism. And then when you start on the implementation phase there's disillusionment, anger, resentment, and you go through a year or two of that. And then you gradually start to make some progress and see some results. You don't know where they came from but you can start to measure results.
FC: When do you think you will start to see results? This has only been implemented a year and a half.
JR: In 1993. We're two thirds of the way through 1992. Oh, sure I could make up some story about results, I mean, you hear it all the time. There's, the one philosophy is that if you don't have short term success that people can see and feel good about and we can celebrate, you won't make another step. So we do have to some short term successes. And Karen, she is heading one of the CI teams, one of the first CI teams that happened in Nashville, and that was, we had this problem. We had a problem that, with the turnover of people, particularly secretaries or admin people. And with vacations and stuff a lot of temporaries were coming in, but they didn't even know how to use the telephone, let alone the Mac and the programs we have on the Mac. And so this was very disruptive, and a lot of anger and resentment, the temporaries wouldn't feel good about it, so Karen formed a CI team to improve the administration of admin services.
FC: What is this CI team?
JR: A continuous improvement team. And so now she's involved with, along with some others, training, I think it's once every two weeks, of these six temporaries that are endeavoring to come into the company that will be trained for a day and a half on all the systems of the company. And also she does consulting with them to see how they're coming, are there any problems.
FC: So she really is a quality secretary.

JR: Yea, and we're all trying to use the seven or so tools of quality including flowcharting, a few simple flow charts, and probably the best example of the tools is in the MemoryJogger. There's a MemoryJogger and a MemoryJogger Plus. Now this contains the seven tools of quality just to get you started. It goes through checklist, fishbone, here, you can have this. And so they are this morning in a meeting doing flowcharting of the process. But the cause of the back-diagram or number of names it has, this diagram, is one of the best ways to analyze a problem, you know, what wrong. And to get the chairman to sit down and do this, is a quite, he doesn't think that he needs to. But more and more we're going to be using these techniques. They're simple, they've been around a long time, it's just that we haven't had the habit of doing that. One of the big drivers for us is survival because our customers are saying that they're going to deal with suppliers that have total quality, and if you don't have total quality long term then you're not going to be a supplier for them. That's a pretty big incentive, right?
FC: How long have they been saying this?
JR: Five years. Some customers are saying that you have sign up, that you have to do a Malcolm Baldridge type assessment. Usually you don't have to commit to try to win the trophy, to apply for the award but you have to do an assessment to do self discovery and how well you're doing. Are you familiar with, have you looked at the guidelines?
FC: Yes.
JR: It's good guidelines.
HH: I was going to ask you about the initiative in the culture, has there been more teamwork or anything that's come about within the company?
JR: Well, of course, this forces teamwork, right? Because you get cross-functional teams. You're going to look at a process in a company, let's say order input from a customer on through to product delivery and finally billing and receiving money from a customer. This cuts across virtually every organization in the company. So if you want to work on that process you have to form a cross functional team. And so yes, we are very much into teamwork. We are in the process right now of training facilitators.
FC: What do they facilitate?
JR: CI team meetings. And we're using Tennessee associates right now as our benchmark for that, for developing our own capabilities because we need to.
FC: You said there's been more teamwork, more cross-functional areas. Has there been resentment to...
JR: Let me comment on this. I think it's like there was always... (tape ends)

Northern Telecom
Mark Henley

FC: I'm just going to start off with some personal questions. Your name?
MH: Mark Henley.
FC: And what's your official title?
MH: By title I'm director of marketing but I'm working as executive assistant to our executive vice president...
FC: And how many years have you been with Northern Telecom?
MH: About six...
FC: What were your other ...?
MH: ...
HH: What would you say is ...?
MH: Well, I can't answer that. ...When I hear about quality...product...working...
HH: Congratulations!
MH: OK, sorry. Regarding product groups and marketing groups, obviously if you talk to the manufacturers... they are going to say it has to do with... and marketing will say it has to do with total customer satisfaction. We obviously do measure that as well. We have a whole group of people that measure customer satisfaction... Typically we measure outages over time... within a Bell operating company, within South Central Bell Northern supplies most of the huge telephone systems that... central offices. ...quality would be expressed in terms of how many outages occur within a specific amount of time within that central office. ...That's kind of where I am.
HH: ...
MH: ...but yea. We as a corporation should have a clear definition... but still I'm going to give you my view...
HH: And how did...?
MH: ...
FC: What is your perception...?
MH: ...

(The rest of the interview is inaudible.)

Supporting Cast
Continuous Improvement Team

northern telecom

Cast Members

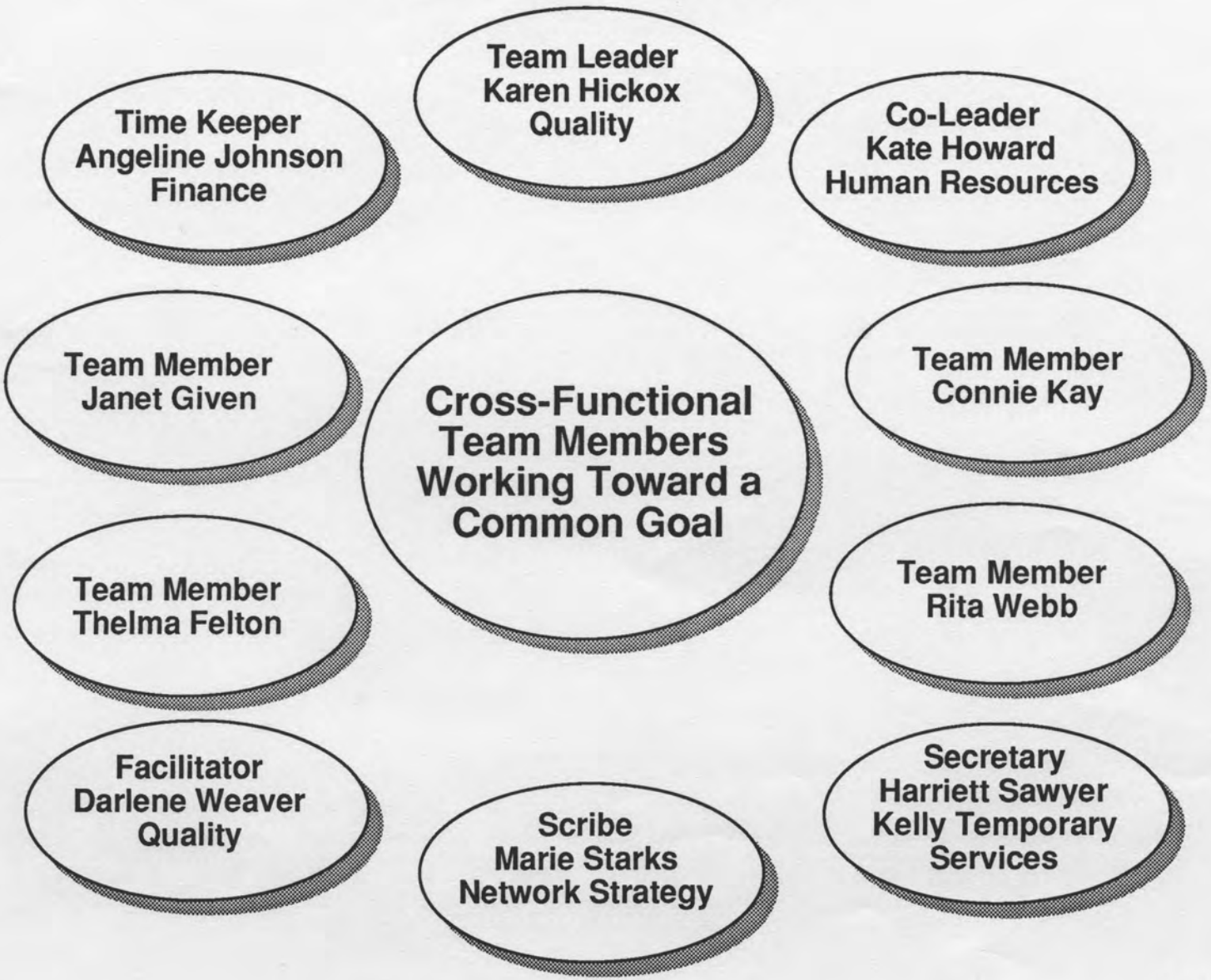


Chart 1 4/10/92 11:07 AM

Supporting Material

Supporting Cast
Continuous Improvement Team

northern telecom

Mission

To provide excellence in the orientation of newly hired and temporary employees.

northern telecom



History

On November 15, 1991, the Supporting Cast held our first team meeting. We formed our group as a result of the Excellence! orientation for support employees. Although new to the process, we identified needs and began work even before our Continuous Improvement training in January 1992.

Supporting Cast
Continuous Improvement Team



Objectives

- Certify all future temporaries in Northern Telecom secretarial procedures and on various MacIntosh software packages

- Provide the written secretarial and clerical guidelines of various NTI functions via CORWAN and make hard copies available to those without CORWAN access

- In conjunction with existing Human Resources teams, identify a more effective and informative new hire orientation program

Supporting Cast
Continuous Improvement Team

northern telecom



Accomplishments

- Total of 12 temporaries NTI certified by end of first quarter (three team members serve as instructors)
- More than three-fourths of NTI Secretarial Guidelines completed
- Created and signed Process Agreement
- Reassigned team roles for second quarter

northern telecom



Next Steps

- Input guidelines into CORWAN and publicize it's existence
- Continue flowcharting assignment of temporary process
- Contact existing new hire orientation teams and begin flowcharting process

IV. Andrew Jergens Corporation

Overview

Of all the companies studied in this project, the Andrew Jergens Company has probably the most unique quality system. Since its beginnings over a hundred years ago, Jergens has been a well-respected American firm. The traditional bureaucratic principles upon which the company was founded and prospered proved to be a major stumbling block for the application of the quality approach.

In 1987 a Japanese household products manufacturer, Kao Corporation, acquired the Andrew Jergens Company. Like Jergens, Kao was a century old company entrenched in its tradition. Therefore, both companies realized the potential difficulties in applying Japanese management philosophy to the typical all-American company. Kao saw the need to apply a quality approach method to the Jergens Company in order to survive competitively. Unlike its American counterparts, Kao did not simply tack on a quality department and create a quality program. For Kao, a commitment to quality runs much deeper. Quality is a definition of who they are. Kao <u>is</u> customer-needs first. Kao <u>is</u> customer satisfaction. It is as simple as that. Kao, therefore, had to change almost every aspect of Jergens' perception of business in order to change Jergens' perception of itself.

Kao began by making communication links within the company more accessible. Under Jergens' old hierarchical structure

"there was a president and executive vice presidents, and vice presidents reported to them, and fifteen directors reported the them, and senior managers reported to those."(Jane Barnett interview, p.3) This type of "reporting" system was more of a distribution of culpability than a distribution of authority, so Kao flattened Jergens' structure. Now there are only a president and six executives who run the company in a much more team oriented approach. The president and executives, for example, do not have separate offices; they share a communal office space where they are easily accessible. There are no doors on the few remaining individual offices, and even those will soon lose the walls which separate them from others.

Team orientation also demands team responsibility. If a memo is typed incorrectly or if even one product is defective, the blame is not put on one person. It is shared by all employees from a secretary to the president; even if seemingly insignificant tasks are not being done in a quality way, the whole company fails to serve the customer in a quality way. The physical openness of office space and the sharing of responsibility, Kao believes, make company officers more approachable for employees.

Before Kao, Jergens was a formal bureaucracy hindered by miles of red tape. If anyone had a suggestion, he/she had to go through the system and sometimes fall through. Many did not feel it worth the effort to voice their opinion. Kao has

changed that. Lines of communication have been opened through quality circles and task forces, but there was no form of formal training for employees to become quality-conscious. Kao sent Japanese employees to Jergens to exchange information and set up some quality control, and this is still done today. There are also videos called "Kao News" which Kao employees all over the world watch, but the videos are more informative morale boosters than formal quality training sessions. The easiest way to describe the installation of quality into employees' mindsets was a sort of peer pressure. There was no plan or process. It just became socially unacceptable within the company not to continuously improve the quality of work.

Kao also applies the team-oriented approach to product development. Rather than letting the executives create an idea for a product and then delegate separate tasks to individual departments, individual departments have been eliminated so that "things are much more fluid and people work with taskforces."(Barnett, p.2) Manufacturing, packaging, distribution, billing, and customer service departments have been combined. So, too, have marketing, sales, and research and development been combined. Kao's reasoning is that each of the areas which have been combined depends too much upon the others to keep them in separate departments. There has been some difficulty in assimilating these departments. Jergens had been a marketing driven company; its products differed little

with competitors; so Jergens had to use marketing in order to make its product unique. As a Japanese company, Kao recognized that marketing differentiation is "fluff," and Jergens needed to focus on creating technological breakthroughs instead. Therefore, Jergens has become a research and development driven company. Although marketing does not lead Jergens anymore, it still creates value for the company by bridging communications between Jergens and the customer.

Because quality has been integrated to such an extent within Jergens' business and cultural aspects, there was little difference in Mrs. Barnett's and Mr. Kobayashi's responses. Both credited the difficulty of Jergens' understanding and acceptance of Kao's Kaizen methods to the difference in cultures. In Japan Kaizen "is tied into their religion... (and) into their philosophy."(Barnett, p.5) In the U.S., religion and philosophy promotes individualism and the need to have "one person in charge that we can blame."(Barnett, p.5)

Mrs. Barnett and Mr. Kobayashi also had similar opinions to the reasons why marketing did not accept the Kaizen principles easily. Unlike manufacturing or research and development, marketing does not create a tangible product which can be easily measured. Marketing must interpret indirect measurements as a means of measuring the quality of its work. Although using indirect measurements is difficult, the real problems arise when quality measurements are imposed on marketing. In many

American companies the quality department forces quality measurements on other departments without soliciting input from those departments. This, said Mrs. Barnett, is the reason for marketing's hostile reaction to companies' quality efforts.

Becoming more Kaizen-oriented means working together as a team. It demands equal participation, dedication, and acceptance of responsibility by all members of the company. For Jergens total commitment to Kaizen and the customer is a long, hard road, and the journey has just begun.

Jane A. Barnett, The Andrew Jergens Company
May 18, 1992

FC: What I'm gonna start off with ...
JB: Are you guys undergraduates or...?
FC: She's graduated and I'll graduate in August. OK, what I'm gonna start off with is some personal questions, not real personal, but. OK, could I just have your name?
JB: Jane Barnett.
FC: And what is your title?
JB: Vice President of Corporate Planning.
FC: And how many years have you been with Andrew Jergens?
JB: Eight.
FC: Eight, and have all those years been as Vice President of Corporate Planning?
JB: No, I was senior manager of market research, director of market research, director of marketing services, vice president of corporate planning.
FC: Have you been with any other companies?
JB: Yes.
FC: Can you say?
JB: Yes, I taught high school for five years, then I worked at a research company for several years. Then I worked at ...Watch in Chicago. I worked at a couple of other research companies. I worked at Batesville Casket, the largest casket manufacturer in the world.
HH: What would you say is Jergen's definition of quality, or do they have one?
JB: Oh I'm sure we do but I don't know what it is. We have plaques that are up on the wall that tell you probably what our definition of quality is. But what we worry about is the definition of who we are. Quality is a piece of that. And who we are, our mission is to satisfy customer needs. And we match needs and seeds. Seeds are R&D, new R&D capabilities that come up. Those are the seeds of our organization. And we match those with the needs of consumers. So that's our philosophy. Quality is a piece in how we do that, but we're not overriding quality first. We are customer needs first.
HH: OK, so matching those seeds and needs, that would be the definition of customer satisfaction?
JB: That's the definition of who we are. Customer satisfaction is who we are, what we are.
HH: And that is pervasive throughout the whole company?
JB: Yea.
HH: How is the quality effort organized, or is it not organized?
JB: OK, as I think I've mentioned to you, as opposed to a U.S. company where you have a quality person, you have somebody in charge of quality, everyone is doing their job in a quality way. Now, we have a quality department, but it's product quality. They test the product to make sure that it's meeting specifications. Of course we have a quality department, everybody does to make sure, even by the government we have to do that. We have to make sure that our (?) are consistent

with the product (?) that we have, that kind of quality people. Quality in the organization is up to each individual to do their job in a quality way.
FC: As we know, Kao, is that the right pronunciation of it, took over Jergens. When was this?
JB: '87 I think.
FC: Usually what we'd ask right now is describing the quality programs. What I'm gonna ask is how did they implement their quality thoughts into the company? Was Jergens already a quality company?
JB: I wouldn't say quality company, that has such ramifications. Jergens did not, quality as a separate thing was not part of Jergens. Jergens obviously strove for quality as all companies do. But they didn't have any quality maintenance programs, they didn't have circles at the working area. No. They just went along and thought they made a quality product. They always thought they had a quality product, simply because the company is 110 years old. You figure, you know you have to serving the consumers' needs pretty well to last that long. So there's never been a question of are we a quality company, but there was never a quality area. Now in Kao, quality is much so very important. They changed the way the working area is. We have much more, not just quality circles but we have test lines. We have lines that people can ask to be on. And it's where the most creative people want to be on, and they come up and they make almost all their own decision making on those lines. And then they measure their efficiency and their product compared to the other line where we tell them what to do. So, there's many ways that we've introduced quality, inventory control. That's a quality issue for the Japanese, making sure that we have just the right amount in the pipeline. We used to have individual departments and now things are much more fluid and people work with taskforce. We don't just approach things with just one department in charge. If there is one department in charge it would more likely be R&D as opposed to marketing. It used to be marketing, you know, who was the one who went out and knew what was going on in the marketplace. Now everybody travels and sees what's occurring in the marketplace. The way we do our market research has changed. All the way through. These are all aspects of what we call meeting consumer needs, which I don't know if you'd call that quality or not.
FC: Was there a training program that they set up? Or did they come in and bring in all their own people?
JB: Slowly.
FC: How did they train the people? Or did they train the people who were already employed with Jergens to get into the mindset, like the quality circles, and you mentioned the quality maintenance programs.
JB: Well, they talked to them. There's no official training program at all. Maybe with the people on the line, I don't know. But we have many ways. We have videos that we watch. They're something we call Kao News, and then every couple of

weeks we all get together and watch this video from Japan that we can learn how to better do our jobs. It's not training. It's kinda like here's what Kao's doing in Malaysia. Here's what Kao's doing in Germany, or isn't Kao wonderful? You know, aren't we a quality company? So there's those kind of things, not direct quality training at all. As a matter of fact, you'd be very surprised. We do not ever have people come in, consultants, telling us here's efficiency, here's quality, here's this, here's that, the way that you'd probably think. Not that at all.

HH: Are there any measurements?

JB: Well in the plant, yea, maybe. But not within the rest of the company. The quality measurement is Japanese perception of whether you're doing it right.

FC: Did it take long for everyone to get the feeling? I mean was it a hard transition?

JB: We are just beginning the transition. Daily there are new changes that we must learn to do better. It's never ending. Transition is always. That's the way we look at it. It's not that it's one way and then you move to another way. We're constantly striving. Kaizen is not just in the way you work in the factory. It's that every day you do your job better, and you find new ways to do it. So it's never-ending, it's not like there's a transition and Oh! now we're this way. We are constantly changing. I know these are different answers.

FC: No, this is exactly what we need.

JB: Not what you're used to, huh? You think this way, wait til you talk to the Japanese, OK?

HH: So each individual is involved in this? Each person is involved in Kaizen?

JB: Yes, in everything you do. You are to do it better, you are to do it quicker. You're to think before you go to meetings and have all possible answers, all possible questions that could be asked are to be answered by yourself before you go into meetings. Therefore, if you're asked a question you have the answer. It's totally unacceptable to say I don't have that information, I don't know. Your job is to anticipate, constantly, so that when you're in that meeting you'll have those answers. To do your meetings efficiently, quickly. Then there's no need to hang around and say well let's have another meeting about this. It's up to the individual to be prepared.

HH: You mentioned that the structure had changed a little bit because of this?

JB: Yes, and we flattened out. We used to have a more hierarchical structure where there was a president and executive V.P.'s, and V.P.'s reported to them, and fifteen directors reported to them, and senior managers reported to those, and it was all... and we still have many of those levels but many have been scrunched. We knocked out a bunch of V.P.'s, not a bunch, but some V.P.'s are gone. Some directors are gone. Instead of everyone reporting up this way, we truly are flattening out so that the information flows. We now have a

Japanese president, and then we have six executives that report to them, but who run the company for right now. So it's much more team approach as opposed to everyone just reporting, and it is never an excuse like, Oh, my secretary typed this wrong. That's unacceptable. I do almost all of my own typing, all my own faxing, everything. And if it's wrong I take responsibility, and if a secretary types something wrong theoretically the president of the company takes responsibility. You don't ever push it down, and say, well somebody who's working for me put this chart together, it wasn't, it was wrong. That's unacceptable. That's this quality issue. Everybody is responsible.

FC: You said that the meetings run more efficiently. You were with Jergens before Kao took over so have you noticed that things have been more fluid and meetings have been more efficient than before?

JB: Yea, well I don't know if meetings are more efficient. That's the aim of it. I don't know about that. We have alot more meetings, but they are more efficient because the idea is we get everybody involved. It used to be executives would sit around and talk about it and product management would say Oh here's this idea we have and they'd cook on it for a long time, and then they'd kinda go out and be prima donnas and say Here R&D, here's your little piece, you don't know the whole thing, and here distribution, you don't know the whole thing, here's your little piece. That is gone and everyone is pretty much in on the initial meetings, and it's everybody who's gonna be involved in the project. It may be twenty people. When you meet with twenty people, it's not efficient compared with one with four. That's why efficiency changes. But when all these people know what's going on up front, the time it takes to get things done collapsed. So everybody starts real early. They're aware of possible problems, they bring it to those people's attention, you know, much earlier. So, in the long run it's much more efficient, but the individual meeting, because it has more people and more concern brought up early are not necessarily efficient.

HH: With marketing and all the other functions, distribution, logistics, whatever, do you think when Kao came in and introduced all this Kaizen and everything, do you think marketing adopted it as well as the other functions, or do you think that it was harder or easier for marketing to change over these ways of thinking?

JB: That's a difficult question. I think it's very hard for all Americans to understand the true Japanese Kaizen. We, in the U.S.A. teach the American version of it, OK. That's a little easier for us to grab. But the true Japanese or Oriental way is a lot harder. And it's hard for us. I've talked to people at Kao Spain who are Spanish and they've learned it. And it's difficult for them, but this isn't because we're Americans. It's just, it is very very difficult and Kaizen is truly not just a thing, but it is tied into their religion. It is tied

into their philosophy of the country. And it very different for us. It is very hard for us to accept. We keep wanting one person in charge that we can blame. That's our way. That's our religion. It's our social structure. And we, as Americans, tend to think, well, if nobody's in charge, then nobody gets their ass kicked is they mess up, then it's not a very good system. It's so hard for us to accept that each one is in charge, and that you can be so obsessed by this fact, that we couldn't work if we didn't do it right.

HH: What about, what in this whole kaizen viewpoint, and all that kind of stuff, what value does it create? Does it help in this overall perception that you were talking about, or..?

JB: It's understanding consumer needs. The marketing alone doesn't do that. R&D does that just the same. At Kao, marketing, R&D, and sales are the same. That's why we're all in this building. It was never that way at Jergens and it would never be that way in an American company, alright. Never in your wildest imagination would they ever do that. But the idea is, the two understand the consumer and the customer. You know, because we have consumers, and we have people like the supermarkets, are our customers. To understand them, you have to understand the technical part of the product, the marketing aspect, the packaging, well, packaging isn't in marketing anymore, advertising, OK, positioning, and the salesforce. They're all the same thing. The same way we have changed in our manufacturing also has distribution, customer service, billing, and packaging, because if the packaging can't run on the line, that used to be a marketing mission, now it's if the package can't run on the line and we can't pack it right, and if it doesn't have DPP and we can't get it to the place right, then it's, so we have different, we have a three member chain, within the company. So, back to your question, marketing adds value, but it's a different kind of value and it's being a team member in that three member team, and getting the needs, the consumer, matched with seeds of R&D.

FC: Was it hard to change being departmentalized and coming in with these new two?

JB: Unbelievably hard, and we're still in the middle of the change.

FC: And what are some of the basic problems working with the R&D and sales?

JB: Well, it isn't so much that working with them is hard. The whole concept of American, let's say, marketing process is you come up with a concept. You say, Gee, I'm gonna make a pen and it's gonna write upside down. That's my concept. And I go out and test consumers and say, Gee do you like this idea. What do you like, what do you not like about it? And then you go back to R&D and say, they really like it, go make me one. See, that's an American philosophy. Well, that's not the way it is. Now what you do is R&D comes up with a patented formula for writing sideways. They say, here is this technological breakthrough. You go out know and find out how

to market it. The process is totally different. Totally different. So it's no longer you come up with like, hey would you maybe like this, but now it's based on breakthrough, if it's not breakthrough, we come back and say, consumers really want an antiperspirant for men that makes them feel sexy. Our R&D people say that's nothing. That's fluff. It's got to have a technological breakthrough. There's got to be something new and unique, or it's not a new product. That is not the American way. The American way is you have very little product differentiation, and you have lots of marketing difference. In personal care, now it may be different in high tech. You have lots of fluffy stuff and you have better advertising, and you have new packaging, and you have all this fluff and that's what makes the consumer buy. And to go now to that's secondary, the primary thing is that you've got to have new technology, new formulas, new breakthroughs. It's very, very different, and so all approaches that you take are different. I'm sorry, I know these don't match with your questions.

FC: That's great. Dr. Locander had us read the book, Kaizen, and it was needless to say very long, drawn-out, and very repetitive, but it's these kind of thoughts actually in the daily world and what it's supposed to be. And then the other companies, they're doing almost the same thing with the departments, you know, keeping quality departmentalized. That's not to say that they're any worse off...

JB: The difference is because we're being run in a Japanese manner, OK. And so, what you read about what the Japanese feel about these things, you're gonna see much more like here at our company, because we're being run like we were a company in Japan.

FC: OK, you said earlier that Jergens doesn't really have any measures for quality except for product development.

JB: Yes, on the line we do but in departments, no.

FC: But you also said that you know that if you're doing things right then you're filling the customer satisfaction goal. How do you know if you're doing things right, just if you're satisfying the consumer, or...

JB: The ultimate is are our products selling well. That is the ultimate measure of customer satisfaction. Because that means that we're offering the consumer value, we're offering them products that are superior. They're coming back, we've satisfied the need. When our sales are down, it's not because the salesmen hasn't done their job. It's because we as an organization haven't satisfied the consumer right. That's why each of us are responsible. Those secretaries who type the orders are responsible if sales are down. Everybody, the people who do the market research are responsible because they missed something, you know. The people in customer service, the people in consumer affairs, obviously the executives. Everybody is responsible, because each of us has a piece to play. And that means somebody hasn't done their best.

HH: I'm sorry, we don't have any more questions.

(later...)
JB: This is my thesis. It doesn't mean that you have to believe it, but it's just that marketing has always been to talk to the customer, to satisfy the customer, to understand the customer. That's always been what they are. But instead of allowing them to use these terms, and say here, this is how marketing does total quality, the engineer terms of quality have been said, OK these are the only terms you use to describe quality, and goddammit marketing, you use these terms, and you measure it, and you do all this stuff. We've always measured customer satisfaction and that's sales. You don't need all these other external measurements, we have those. We have market research measurements, we have sales, acceptance of advertising, we test out advertising. These are all quality measurements, but it's as though the quality people won't let any of these things be considered quality. If you don't use their terms and their measurements, it doesn't count. My philosophy is each department has their own definition of quality, and that's good, that's part of how it all comes up, so I think that's the problem, is that we want to take engineering issues and shluck them on top of marketing and say it has to be this way. Why? Why does it have to be those terms and those measurements? Who said they were quality gods?
FC: What you have described is what is going on in American companies. It's not really happening in Japanese firms.
JB: No. But that's the problem I see in America. That's why marketers fight it. Because it's foreign measurements when they have their own right now. But it's as though quality people won't allow those to be OK because they have others, and why use those?
FC: So if there are problems of acceptance in other departments that's probably the same?
JB: Yea, I don't know as much about all other departments. What I mean is I don't intend to know about other departments, but I think we have to stand back and say why these measurements, why not what they have? Why not the way that they've always measured themselves, and use that as quality. Because it is a measurement of quality. You do a package test and the package comes in fifth compared to everybody else, you don't have a quality package. And you have all that data, I mean, all marketing departments have it. That's quality.
FC: And how would you suggest remedying this? Like...
JB: Get to the quality and the total satisfaction people and let them realize they're measurements are not themselves. Quality people in companies and writers and professors and everybody else have the same American, this is my turf problem. If you don't do it my way, it doesn't exist, and that's not true. It's again, it's this fragmented view the American business wants to take, and cut it this way, and I'm the quality officer, and that means you do it this way and I give you the fifty ways to do it. Well, that's not quality. We learn to accept, if you believe that quality is every person or department

is responsible for quality, then you look at the way they define it, their role in the organization, and that becomes the measurement as opposed to this outside measurement that's thrown on them. Quality because you measure it one way in the plant doesn't mean that you can measure it the same way. I don't believe that you measure the key strokes of a typist to tell if they're quality or not. That's not how you do it. There's other ways. That's just me, turn it off.

Ryo Kobayashi, The Andrew Jergens Company
May 18, 1992

RK: I have only been three years in this country and I don't know whether I should be speaking from our parent company, which is Kao point of view, or should be speaking from Jergens point of view, or I should be speaking from Kao Jergens combined.
FC: Well, I guess we got Jergens point of view, I think, from Jane. I think what would be better for us if you gave us the Kao point of view so we could get a true Japanese point of view.
RK: Wonderful.
FC: So, could I have your name?
RK: Oh. (gave his card) Ryo Kobayashi.
FC: And what's your title?
RK: Assistant Product Manager.
FC: And how long have you been with Jergens?
RK: Jergens, three years and a half.
FC: Have you been Assistant Product Manager all those three years?
RK: Yes.
FC: And were you with Kao in Japan or somewhere else before?
RK: Yea, prior to that I work with Kao headquarters located in Tokyo, central part of Tokyo. I spent a year and a half. I was with the marketing planning division, and then I was transferred to Kao New York office which is already closed. I spent a year there and then was transferred to where I am now.
FC: So throughout all your employment with Kao you've been in a marketing function?
RK: Yes.
FC: OK.
HH: Well, what would you say Kao's definition of quality... quality within the actual department?
RK: When Jane gave me this, I was trying to somewhat... Well, this is the cover sheet of the annual report, 90-92, which was just published, and this tells you the overall where we are and how where we are going, Kao corporation is going. And I'd like to point out the section number two which the first it says commitment, commitment to consumer is the principle guidance force of all corporate decisions, and Kao is very corporate consumer-oriented company I would say. And every decision making has to be judged by how much commitment we can make to the consumer, enhancement of the consumer quality of life or everyday life is the number one key. We all have to keep in mind whenever we do any kind of consumer activity which is developing a product or ... into advertising or distributing the product to the retailers.
HH: And so that idea is pervasive throughout all the departments?
RK: Yes.
HH: And it's not organized, it's just on an individual basis? Is the commitment to Kaizen organized at all, or is it just a personal thing?

RK: Well, it's more of a personal thing. We don't have quality control department. Actually, we do in the manufacturing area, and it's like quality assurance. But in marketing and sales and administration we have quality control management type of things. What we were asked to do, every department has some two or three principles which they follow. Number one, always number one is the commitment to the consumer, and for example the accounting, they may, sounds like nothing to do with the consumer enhancement or consumer life, but what they do, if they could make their work more effective so that they could inform consumer better number and better serve the consumer in an effective way they'll be judged that they do a good job. So everything we do, once a year we have a measurement day we call it, and everybody in every department will be measured their performance and the number one thing that counts is how much contribution did you make to enhancing consumers lives. And there are always number two, number three, and number four, but directly, or indirectly how much did you enhance the consumer.
FC: So did you say there were two principles of each department? One was commitment to the consumer, and then what was the second one? Did you say it was just one a commitment to enhance the consumers life?
RK: Ultimate goal is commitment to consumer, consumer's lives. Number two is the giving the, I'm sorry. The number one is commitment to the quality of the consumer's lives. And number two is kinda the science or technology we use to improve the consumer's lives. Number one is more or less the general, two is if there isn't anything unique or if there isn't anything new we are not allowed to take that technology or that product into the consumer's market. So everything we launch a new product or everything we do advertising in a magazine, we measure from the consumer's point of view if there is anything new, information, technology, new something in it, and that's number two. And if we just keep sending the old or same information we are not allowed to do such.
FC: Now Jane told us that Kao took over Jergens in '87, is that right?
RK: Yes.
FC: And what we were wondering is how you brought the kaizen principles into an American company. Did you have a training program or, Jane mentioned videos, how did you bring together, like we know that marketing and R&D and sales which were separate before were brought together. How did you coordinate everything and bring kaizen into Jergens?
RK: Kao is very strong in terms and of research and development, and sales, and these are the two areas which are driving Kao's business, and so naturally when Kao bought Jergens these two are the first ones that kaizen or improvement philosophy was brought into this company. As Jane said, we use video, we use a lot of papers and also we also, every month we have five to ten visitors from Japan to, number one of course to exchange

some information, number two to bring some kind of quality control or new technologies into key areas, which is R&D. And of course almost all of the Jergens people, almost all of the Jergens research and development people have been to Japan at least once, and see their plants and daily operation and to get to know more about Japanese product improvement, our system. Unfortunately the sales and marketing is still, because of the cultural difference, because customs are so different, it's still behind and we have to update on that. We are bringing some people to Japan and also we are bringing Kao people to Jergens. For example, we just had a visitor from, two divisional managers and one sales manager from Japan and they did explain what they had been doing. We did have some wonderful communication exchanged, that kind of stuff. Also we have, it's called Kao News for the bimonthly circulation. Kao has, Jane might already have told you, even in the United States we have a Kao ... in California, and we have a Highpoint Chemical Company in North Carolina, and we have KLC Kao Info Systems which is located in Massachusetts which produces modern premium floppy disks, and we have a plant in Spain. We have a plant in Berlin, Germany. We have a laboratory in Paris, France, also Berlin, Germany. The numbers of overseas employees are growing ... for three or four years. And we have, in order to have a better communication to it all, the overseas employees, we have an English version of Kao bimonthly and everything and through that everybody gets the same message, where Kao is going, how Kao is doing, and stuff. Plus everybody is able to be, this is Kao Corporation 90-91, if you like we can get you one. The annual report, English version. Also we have Kao... unfortunately it's in Japanese. We have the ... version of the magazine which you would get monthly which shows all the key activities during the, that month. That March version is about fifteen minutes videotape, and if you like we can send a copy to you. This is May issue, and the first topic is, they have the consumer affairs department and the first thing they talk is they just had an annual meeting with the consumer. They are talking more than twenty thousand consumers every year from all over Japan. They get the information from the consumer. They send consumer information to sales and marketing and manufacturing, that kind of stuff. Also they have alot of information about the each area, what they are doing. So ...communication and some visual information like the video type of stuff.

FC: You mentioned earlier that sales and marketing were kind of behind when we were talking about the kaizen. Do you mean as far as accepting kaizen, or how are they behind?

RK: Kao has a very unique, even among the Japanese companies, a sales organization system. They establish sales system and they have a strong sales force, and they could distribute, for example if they launched a new product they could distribute to more than twenty thousand Japanese retailers within a week whereas here it takes four to five months to get to the stores.

And there are so many differences. Of course, difference comes from history, from custom. There are so many things that even though the Kao knows, and we know that may be a wonderful system if you could bring it to here but there are so many things that we many to have to alter or adjust before we bring that system into Jergens. So still the stage now is general discussion, communication exchange, and get to know each other. I think it still needs another two to three years until we get the next stage which is more and better kaizen system. What we are now doing now is, Kao is also very strong in terms of getting information and they control more than twenty-four thousand Japanese retailers, they get daily sales and they know what is selling well, what is not selling well. And also they are buying a Neilsen type syndicated data system and also they are combining ... information with the consumer information which consumer affairs getting through 1-800 number which the consumer dials. Everybody can access that information through the computer network, and what we are doing right now is to somewhat immitate the computer database system which everybody, not only marketing but also sales and consumer affairs and manufacturing can access to the database so that they know exactly what item is doing well, which item is not, and if there is any consumer complaint, ultimately we will be also be able to access not only Jergens sales, but also Kao's sales or sales in Spain, sales in France, so that we know not only U.S. trend but also global trends. And it may take two years or four or maybe five years to get the that kind of sophisticated database. Then we will be able to better support to the customer, which is major retail stores and we will get them better service. This is stage for sales and marketing. Distribution is a little bit ahead and they, because it is very easy to measure how the improvement is done and we are putting in some of their, it's not like Toyota's Kanban system, that may be applicable in manufacturing like auto industry, and it's very almost impossible to conduct the same kind of plan in this cosmetics business. But we are trying to reduce the inventory and we are also trying reduce the days between we get the order and we distribute the product and major information system is almost done in that area and we feel we are making major progress in terms of distribution, but marketing and sales are still behind.

HH: What do you think it is about the American culture that maybe has caused a little trouble with kaizen being adopted real easily?

RK: Number one, to be honest, because kaizen system was made in Japan even though the fact was after WWII we were learned kaizen or quality control or total quality control system from Mr. Deming, which is American, but we, Japanese people, modified and established their system and some people unfortunately... so it's more like some personal system, kind of thing, it's number one. Number two, since Jergens had been under American plan and under American plan company or rule is just to make some plan every year, that's all they hear. And they don't

care product quality. They don't care future or they don't care long term plan, they just care short term plan. Now under the Japanese company we were asked not only to look into the short term plan but also to long term plan and you don't get used to it and it takes time to know the Japanese culture system, Japanese management system and, so number two is just a matter of time because we don't know and we haven't had that type of system before. Number three is even though Kao is very successful in Japan and Kao is Procter and Gamble, they have detergent, soap, and floppy disk and they have all industry which Procter and Gamble has, but there is some piece of the element which cannot be transferable into the United States, and maybe because of differences of history, Kao has this status quo after forty years of long battle with the trade, and you can't blame the same trade system into Jergens, and you can't see some improvement within a couple of years. So time, historical difference is number three, and some people keep saying, OK you guys, Kao has forty years of experience whereas we have only three years and nobody can expect anything out of three years. I can't think of anything else.

HH: What do you think the reaction was to the introduction of kaizen and all those principles? Was it an easy transition, has it been really difficult?

RK: Manufacturing and R&D or the advanced product development areas were very easy because they could measure the outcome. Manufacturing, they could measure outcome by number of product, production, and they could see the outcome very easy, whereas marketing, there is a measure that you can access. For example, you can buy a Neilsen data and you can see how sales are going, but it's always indirect, not the direct measurement so that manufacturing and research were very acceptable from the day one and they don't have any ... except for some old die-hard people who don't like the idea of doing anything from Japan, and that's about it. And we see improvement from this area. Marketing and sales, there isn't any measurement, I think it will be a big challenge.

HH: And each person that's in marketing or manufacturing, they are all involved in kaizen, in an individual way?

RK: Yes, Kao in Japan has a request box kind of thing which you are familiar with and each person allowed to make any request or if they have any idea, they can directly talk, not talk, but send an memo to a president or a manager so each of the employees voice will be reflected and if someone has a good idea, there is a research and development meeting. For example, every month and if someone, the employee who just got the job, if he has a good idea, he could present in the big monthly meeting which all the big executives should attend, and he could make his idea available to everybody. He could share that idea and we have that kind of system whereas here we're still, kaizen things are conducted by division or by department so that, I'm sorry conducted by research and development, not only research people but also manufacturing people, sales people, and marketing

people can attend that meeting. So that everybody, the topics could vary from very minute research findings to sales distribution improvement system, everybody can assess that information. Whereas here, it's still departmental and sharing the communication, sharing the idea is still kind of behind.
FC: How long do you think it will take for Jergens to become a total Kao company with kaizen in every corner and niche?
RK: First of all we are not, Kao is not trying to push our way into Jergens. Or Kao is not, they said, to alter Jergens company. They are trying to push some ideas which they think work in the United States into Jergens company. So what they are trying to do is not establish like a new Jergens, but trying to just expand the Jergens company with some new ideas from Kao corporation. So Jergens will not be like a Kao corporation U.S. division. Jergens will be Jergens, and so you won't be able to see Kao's, well like a Kao Japan in the United States. What you see is a Jergens with a sophisticated information system, sophisticated database system with the strong emphasis one the consumer, the everyday like, that kind of stuff. And distribution, sales, and manufacturing, we're already seeing some major improvement, and day by day we're improving still, but if you need to total company wide, if you want to see a better Jergens company, you also require the commitment from marketing and sales and consumer affairs. It will take another three or four years, I believe. We will be studying total company, it's like a corporate identity kind of thing, corporate effort from the summer, and through that we will be able to ... employees who will be able to feel that Jergens is now combining into one Jergens and now the direction is very clear among all the employees. Still may require some database system, some investment, again, another three or four years until we see the Jergens company.
HH: So really there's no measures for quality within the company or anything like that, you just use sales?
RK: We use the sales, and we do we call benchmark study which is the same time of the year we talk to the consumer and see how, if there is any improvement that we have done or if there is any complaint which we haven't had before, and so that you can see the trend that we have something to improve their lives or not. This is done by division, which lotion, soap, and bath sanitives, and so you can get some information from the consumer's voice through this research. Also every day we are getting the 800 calls, the report, and we are trying to start an in-house system. We are still relying on outside telephone company system. But everyday we are getting, for example in bath sanitives, which I am doing, we get fifty to hundred calls every day, and some complaints about things with product, and every month we review all the complaints and see if there is anything that we have to do and from these consumer voices we get some information. Also time by time we do have focus group research which the, asks the consumer to get together, usually eight to fifteen people, and it's like free discussion, and

we will monitor the consumer voice, and we will also tape the discussion and will measure, those kinds of things.
HH: I don't have anymore questions, I don't think. Oh, what value do you think the marketing department creates?
RK: Well, I don't, I'm not sure it has to be called value. I don't think marketing people create anything. Their job is to just collect all the pieces of information from every department and combine all of them into a one direction so the consumer could understand or comprehend what we do, and what we have. That's all. So it can be described as just a bridge between the company and the consumer, and we are just a representative. We are not making anything, we are not inventing or producing anything, just a bridge between the company and the consumer.

Jane A. Barnett, The Andrew Jergens Company
May 18, 1992

FC: What I'm gonna start off with ...
JB: Are you guys undergraduates or...?
FC: She's graduated and I'll graduate in August. OK, what I'm gonna start off with is some personal questions, not real personal, but. OK, could I just have your name?
JB: Jane Barnett.
FC: And what is your title?
JB: Vice President of Corporate Planning.
FC: And how many years have you been with Andrew Jergens?
JB: Eight.
FC: Eight, and have all those years been as Vice President of Corporate Planning?
JB: No, I was senior manager of market research, director of market research, director of marketing services, vice president of corporate planning.
FC: Have you been with any other companies?
JB: Yes.
FC: Can you say?
JB: Yes, I taught high school for five years, then I worked at a research company for several years. Then I worked at ...Watch in Chicago. I worked at a couple of other research companies. I worked at Batesville Casket, the largest casket manufacturer in the world.
HH: What would you say is Jergen's definition of quality, or do they have one?
JB: Oh I'm sure we do but I don't know what it is. We have plaques that are up on the wall that tell you probably what our definition of quality is. But what we worry about is the definition of who we are. Quality is a piece of that. And who we are, our mission is to satisfy customer needs. And we match needs and seeds. Seeds are R&D, new R&D capabilities that come up. Those are the seeds of our organization. And we match those with the needs of consumers. So that's our philosophy. Quality is a piece in how we do that, but we're not overriding quality first. We are customer needs first.
HH: OK, so matching those seeds and needs, that would be the definition of customer satisfaction?
JB: That's the definition of who we are. Customer satisfaction is who we are, what we are.
HH: And that is pervasive throughout the whole company?
JB: Yea.
HH: How is the quality effort organized, or is it not organized?
JB: OK, as I think I've mentioned to you, as opposed to a U.S. company where you have a quality person, you have somebody in charge of quality, everyone is doing their job in a quality way. Now, we have a quality department, but it's product quality. They test the product to make sure that it's meeting specifications. Of course we have a quality department, everybody does to make sure, even by the government we have to do that. We have to make sure that our (?) are consistent

Route: ~~RSB~~ ~~MCS~~ ~~KIN~~ ~~JAB~~ DA

THE KAO CORPORATE PHILOSOPHY

Dr. Yoshio Maruta

President

Kao Corporation

The ideas of Confucius were a product of his perceptions of history. It would be wrong, however, to classify this system of thought known as Confucianism as a "religion." True, it has a religious side to it, but for the most part it is a systematized collection of natural philosophical truths, suggesting the essential harmony between Heaven and Earth, humankind and Nature.

The same thing applies to Buddhism. The enlightenment of the Gautama Buddha came about as a result of his recognition that all living things exist as a basic part of the general order of Nature and that their existence only has meaning in relation to the essential truths of Nature. His thought system in this respect is not directly related to the question of religious faith.

At the time Prince Shotoku was born in 574, two powerful clans, the Soga and Mononobe, led factions engaged in a disruptive power struggle to control the Imperial House. In ideological terms, their rivalry centered on the wisdom of adopting Buddhism and Confucianism from the Asian mainland. Amidst these events, Shotoku became crown prince and then when still only 20 was named regent to Empress Suiko, his aunt.

While in office, the prince invited an eminent Buddhist priest from the kingdom of Koguryo in what is now North Korea and a famous scholar from the kingdom of Paikche in the southern part of the Korean Peninsula to instruct him in and advise him on the fundamentals of Buddhism and Confucianism respectively.

From his own synthesis of the precepts of Shinto, Confucianism, and Buddhism, the Prince was able to distill the thought that became the basis of his Seventeen-Article Constitution, issued in 604.

Bear in mind that this Seventeen-Article Constitution came into being more than six centuries prior to the signing of England's Magna Carta in 1215. It should be noted that these two famous charters were essentially different in one important respect.

The framing of the Magna Carta came about as a result of the extremely violent and repressive rule of King John, who murdered many of his ministers, abruptly raised taxes, and generally carried on in a very unkingly fashion. The great barons of the realm and those directly exposed to his arbitrary and capricious actions wanted some device to keep the sovereign bridled within a certain framework.

Consequently, on a small island in the middle of the Thames River, near what today is London's Heathrow Airport, the king was forced to affix his signature to that forerunner of today's many constitutions.

The origins of Shotoku's Seventeen-Article Constitution were, however, quite different. I do not have the time to describe the complete historical background of the document. Suffice it to say that it really makes no sense to refer to the document as a "constitution"--the society in Japan 1,400 years ago bore little resemblance to that of today. Japan's political thinking has undergone enormous changes in the intervening centuries.

The Spirit of the "Peace Constitution"

The Seventeen-Article Constitution is also sometimes referred to as the "Peace Constitution" or "Harmony Constitution." The very first sentence captures its basic spirit: "Concord is to be honored, and discord averted." This sentence is a part of the first article, which infers that men as a matter of course tend to "disobey their lords and fathers"--referring to the general friction between superiors and those under them--and that they "dissent from their neighbors"--speaking of the frequent quarrels between neighbor and neighbor.

But it goes on to argue that if the superiors can truly understand the feelings of their subordinates and take the initiative in trying to allow the latter to feel the true joy of life, and thereby create the conditions in which a spirit of harmony and mutual assistance prevails, then assuredly those below will wholeheartedly cooperate in maintaining concord in society and personal relations.

Prince Shotoku knew that only when this change came about could superiors and inferiors engage in fruitful discussions. He was in effect urging both sides to talk about things in as frank and truthful a fashion as possible. If such an atmosphere could be created, he realized, the results and the fundamental principles he believed in would, in reality, become one and the same. What he was attempting to do in this first article, in other words, was to explain exactly what true harmony consists of.

In the second article, Prince Shotoku also dealt with a problem that is difficult to assign to the sphere of religion. The article begins, "Sincerely revere the Three Treasures."

This expression refers to the Buddha (who might be thought to personify Nature itself), the dharma (or law of Nature) and the sangha (those who jointly seek to live a life conforming to Nature). Prince Shotoku purposely chose this term "treasure." Basically, the second article concentrates on the dharma, which though strictly defined as "law" actually refers to the ultimate truth that governs the existence of all living things in the world and the universe in general. It can be discerned by those people who cleanse themselves of evil deeds and evil thoughts. This was the basic message of the historic Buddha.

In other words, the proper way for all human beings to live is by respecting the dharma, that unitary truth which permeates the entire universe and governs the existence of all sentient creatures. Those belonging to the sangha believe in this explanation of the ultimate. Their community includes, but is not limited to, ordained Buddhist monks and nuns, even though Prince Shotoku was specifically referring to monks. A Buddha is really a person who forms such a group of monks with the goal of realizing such an ideal world and society. We might add, however, that every living creature, from the most infinitesimal microorganism to humankind itself, is subject to this same immutable law. This principle is also universally accepted by the world's great religions.

Now, in Article 10 of the Constitution, Prince Shotoku noted that "wise" and "foolish" are really relative concepts, merely dependent on our individual way of thinking. We all combine in ourselves these two qualities, "like a ring which has no terminus." In other words, the Prince is setting forth the position that the dignity of humankind is based on the principle of absolute, innate equality of all of its members.

In Article 17, the last article, the Prince sets forth his belief that important issues should be exhaustively discussed "together with many others," even though minor matters can be left to those directly involved to take care of. A respectful reading of the Seventeen-Article Constitution reveals how Prince Shotoku was determined to do his best to assist Empress Suiko to fulfill her duties as sovereign of the Yamato Court, through which she sought the happiness of all her peasant subjects in the cradle of Japanese culture in the Nara Basin.

In today's Japan, as the imperial system now exists, the Imperial House lacks any real power to expropriate anything from its subjects, even if it should so desire. It wishes only for the general welfare and happiness of the entire population. What this "happiness" really signifies is a manner of living in complete accordance with the order of Nature, in which the cycle of agricultural labor is carried out in tune with the movements of the moon and sun.

Prince Shotoku also stressed the fact that although many people may have evil hidden inside of them or twisted souls, with proper instruction they are all equally capable of rectifying themselves. All possess the same capacity in this regard.

Especially important in this respect is creativity. This faculty is exclusive to humankind, a priceless gift from Heaven if you will, which if treasured can provide the basis for improving human society and bringing about enduring peace. Prince Shotoku thought precisely in such terms. Moreover, he argued that it was the duty of those at the apex of society to themselves take proper action in order to build around them a paradise that could be shared with the many.

Putting Your All Into the Task at Hand

Another Japanese religious leader I would like to mention at this point is the Buddhist monk Dogen (1200-53), who lived in the thirteenth century and is regarded as the founder of the Soto sect of Zen Buddhism.

Dogen contended that the practice of true Buddhism did not require doing such things as reading the sutras or burning incense. By totally concentrating on the wholehearted performance of the immediate, simple daily tasks at hand, be it the wiping down of a wooden corridor, the preparation of a delicious meal, or the sweeping of a garden, a person could come to feel the natural order of the universe throughout his or her entire being. The essential thing was to carry out each and every action with the totality of one's being. To Dogen this was the true meaning of "satori," or enlightenment.

Another way of explaining this position is as follows. All of us in the end view things in a subjective manner, but the universe is governed by the ultimate truth, which is totally different from our subjective perceptions. It is vital that we come to feel this truth. In most cases, when viewed from the perspective of the universe as a whole, human action appears to be the height of folly. Here the important thing is to remove from ourselves this misguided type of thinking and through wholehearted devotion to the immediate task clear our minds of extraneous thoughts. In turn, this approach to our work will enable us to grasp the natural order of the universe. From such a rigorous manner of living derives humankind's greatest treasure, which we can call either wisdom or creativity.

The thinking of Prince Shotoku and Dogen represents one facet of Buddhist thought, but it does not really represent religion in the sense that we normally use the word. It is simply the recognition that in the end the single truth suffuses the natural order in every corner of the universe and that all human beings who exist under these conditions are absolutely equal in their essence. The wisdom of these two spiritual giants has served as a great revelation and inspiration to me in my own life.

Desiring Happiness for Every Family in the Land

As was mentioned previously, I was unexpectedly promoted to the important position of president of Kao Corporation. in 1971, at a time when the Japanese economy was experiencing great difficulties and the company was internally in a state of some disarray. When trying to decide what I should do now that I was at the helm, I tried to find inspiration through three years of Zen training and exposure to the basic teachings of the great nondenominational Christian leader Uchimura Kanzo. I also devoured books on Buddhism, philosophy, and other related subjects. From these various sources I derived much, but I still could not find the proper focus, so to speak.

At this point, I was lucky enough to meet Dr. Hanayama Nobukatsu, who early in his career had proved that the "Commentary on the Hokke Sutra," which provided the basic inspiration for the Seventeen-Article Constitution, was in fact, as tradition claimed, written by Prince Shotoku himself. I was thus able to directly hear about Prince Shotoku's thought from Dr. Hanayama.

I felt as if the scales had fallen from my eyes. I finally realized after these three years that as president I was responsible for the fate of the entire company, I was the "compass" that established its direction. I also saw that my most important task was, in accordance with the spirit shown by Prince Shotoku in his famous sutra commentaries and the 17-Article Constitution, to do my best to fulfill the desires of our many Kao employees and create an optimum environment for them to work in. This spirit really was the heartfelt yearning of Prince Shotoku for what was best for all humankind.

The oil crisis of the early 1970s had caused much disorder, and since I was not yet used to the job I suffered numerous difficulties. Nevertheless, by relying on this kind of thinking I began to gradually get in touch with the truth that pervades the universe, and realizing that this truth was an expression of the Almighty, wanted to pass on the wisdom found in this life view to as many people as possible with the assistance of my employees.

The wisdom found in Buddhism is intended to be passed on to as many others as possible. This is why in Buddhist iconography the nyorai (tathagata), or individual who has attained Buddhahood, is always flanked by two bodhisattvas--one representing wisdom and the other compassion. These two bodhisattvas always accompany the nyorai. In other words, they show that compassion manifests itself through provision of accumulated wisdom to many people.

In the case of Kao, our role was to accumulate collective wisdom and then pass it on to as many people (in other words our customers) as possible. We needed to remember that among our customers are many people who are barely scraping by financially, having to worry about how to buy even a postage stamp or a bar of soap, while doing their best to provide for their families.

For our part, we had the opportunity through our products to help them maintain their hygiene, keep their clothes clean, and maintain a tidy home environment. The resulting clean living environment in turn helped to soothe the spirit and maintain peace at home. In something like a chain reaction, this way of thinking could lead to wider and wider repercussions; each stable household in turn contributed to a peaceful employment situation for Japan's many workers and strengthening of the country as a whole. Not coincidentally, and in accordance with our philosophy towards our work, the slogan adopted by our company for its centennial anniversary next year is "A clean nation prospers."

Our desire is to see each and every household in Japan clean, healthy, and exposed to what is beautiful. Our products are in a real sense a concrete expression of this wish.

Striving to Provide Total Service

For the rest of this speech, I would like to concentrate on what we are currently doing at Kao.

To put it in a nutshell, we are attempting to carry out a complete renovation of our management, based on a thorough integration of the research and development, marketing, production, and other corporate functions whose operations have been organized on a horizontal pattern.

The expression "biological self-control organization" is sometimes used, meaning that the R&D and other functions within a given company are integrated into a cohesive whole with all individual areas of responsibility being synthesized into one. In other words, the major problem is to transform the corporate organization and management into something like a living organism in which each separate part performs a special function, but all move as one.

Let me put it another way. As I was explaining before, there is really only a single truth. An effort to ascertain this truth through the "exchange" of the unique perceptions gained from the respective viewpoints of R&D, management, or production is nothing more than an application of the precepts contained in Prince Shotoku's Seventeen-Article Constitution. This is the philosophy according to which we operate at Kao.

The important thing is for the Kao management to be able to share and impart to our entire staff a shared, consistent image of what we should be. This is similar to the image of the dharma or law shared by the sangha community, which I referred to in my discussion of the Three Treasures of Buddhism. The goals are similar. Our basic philosophy boils down to the following: Our job is to provide as thorough service as possible to the consumer; we have no other function besides this single one.

Consequently, we have absolutely no thought of other companies in the same field as us as being competitors. We purposely refrain from engaging in any scramble for market share. The truth is not to be found there, but in the majesty of the universe. If we distill understanding of this truth into wisdom and then offer it to consumers, they will naturally return the kindness through their blessings.

To sum up our corporate philosophy, which forms the basis of all of our actions; Kao believes that it is our duty to work day and night to devise better ways to serve our customers, so that we will be able to pass on the truth we have discovered as a team in the natural order to these consumers. We flatly reject the concept of competition. We do not care in the least what our market share is or how much our sales have increased from the year before. We do care about doing what is right.

Absolute Equality in the Exchange of Information

To achieve this goal, a spirit of absolute equality among people is vital. Recently enormous advances have been made in the fields of computer and communications technology, and people have gained ready access to what is usually referred to as "information." In former times, the president of a company acted as a storehouse of vast knowledge on operations in his company, receiving information from the chiefs of the finance, production, sales, R&D, and other sections of the company. Consequently, these old-style company presidents also accumulated great power. When such a system is destroyed in toto, then large numbers of employees are able to acquire "information."

The second corporate principle by which Kao guides its actions is therefore absolute equality. This means that we reject traditional concepts of "command" and "authority" and instead treat everybody the same regarding the exchange of information. The newcomer who joined Kao yesterday and the president share equal access to the same information pool, which allows both of them to develop the same kind of creativity.

At first, many in the company vehemently opposed this concept. The process of implementing it took a long time and was by no means an easy task, involving as it did the relinquishment of authority by many individuals. Many were also worried about the leak of corporate secrets to outsiders and argued against the concept on these grounds.

But after all "secrets" are in fact only one form of illusion. I do not really believe there are such things as secrets, because the process of creativity proceeds on a day to day basis and is constantly changing and being renewed. Of course, when it comes to such things as patents or basic original ideas, there certainly are secrets. But other than that the whole idea is nonsense. You cannot tear open our skulls and pick out the secrets from our brains.

Since Kao has this kind of open organization, we believe that it is a lie to claim that information and intelligence exchanges cannot be carried out due to the need to protect secrets. Be that as it may, it took us around ten years to fully adopt the new system, after much difficulty.

But old habits die hard, and that goes for the habit of authority to. Things have certainly changed, but from my perspective of having worked at Kao for 18 years, I have to admit that the new system is still not complete and that the goal of completely equal intracompany human relations still remains an ideal that has not yet been fully realized.

I certainly do not endorse the communist system as it is in the Soviet Union, Eastern Europe or China, but perhaps the time has come to reflect on whether or not democracy and individualism as found in Western Europe and individualism really do eliminate control of men by their brothers, remove old customs, and unfetter creativity.

As I described earlier, the program of total corporate integration seeks to improve service to the consumer through a synthesis of the marketing, sales, and other functions of the company. R&D has of course its own unique functions, but these are important only in so far as they perform their proper role vis-a-vis the total picture. In the Kao management system, R&D, production and marketing and sales are totally integrated together.

To explain all of this in detail is rather difficult, but the most important thing is the way you perceive the market.

The Concept of the Truth

Let me describe how marketing usually works. The marketer develops a concept about what kind of product is needed and takes this concept to the R&D people and asks them to develop it into a real product. The marketer then gives the product an appropriate name and begins the process of actually marketing it. But there is something strange about all of this.

In reality, the prime determinant of the situation is the consumer. What the marketer really should do is determine what the average desires of the greatest possible number of consumers are or define their different lifestyles--each person is naturally going to differ somewhat in these respects--and then mull over what they really want and need. The truth is there to be found. It is the consumer who really develops the concept; it is not for us to force our own preconceptions onto him or her.

The important thing is that R&D be oriented toward the satisfaction of consumer needs. But the final decision always remains with the consumer. The entire process has to be carried out with the concept of service to the consumer fixed firmly in mind.

At present, many manufacturers in Western Europe, the United States, and Japan seem to be afflicted by an attitude of arrogance. I always say, however, that unless we possess an attitude of benevolence and worry day and night about what is really best for the consumers who rely on us, we will not be able to carry out effective marketing surveys or develop concepts that truly match the decisions of the consumers.

Looking back on how things were at Kao in the past, I cannot help but feel that despite the progress we have made if we were at all arrogant or insensitive in our behavior, then this was a terrible sin.

But again we must always bear in mind that the truth is eternally the same. What matters is how we seek to approach this truth.

Corporate Structure with the Functionality of a Living Organism

As I noted previously, for an organization to function like a living organism, it should be as simple as possible. Traditionally, companies have had a multi-tiered structure, with the chairman and the president on top and progressively below him the executive vice-presidents, senior managing directors, directors, senior managers and finally managers. Since at Kao the chairman, president, two executive vice-presidents and two senior managing directors perform exactly the same work, we have eliminated rank distinctions entirely. All six top managers discuss business communally, form our corporate strategy together and exchange information without any barriers.

We do not have individual offices. The six of us all work in a large office we call the "decision room." It is here that we mull over any topic any of us wants to throw out for discussion. This ultra-simple organization greatly facilitates direct communication among us.

Even with such direct communication, however, human speech still remains a tricky thing to deal with, apt to cause misunderstanding. As a result, unless we are ready and able to put ourselves in the other fellow's shoes and to imagine how he took a certain statement, or what his position is on a certain issue, or what he is thinking at any given time, then we will find that even with such a streamlined system we may find ourselves heading off in different directions.

Especially in this age of continuous development in the field of computers, one very difficult problem that has arisen is that we need to constantly make sure that there are no discrepancies between input and output and to remember that unless we bear in mind the outlook of our partner, his background and desires, then words alone can do little to bridge the communication gap.

With direct communications or networking then, we must always think of the other fellow's desires, outlook, role, and what we can do for him--in other words his real feelings. If we can do so, true understanding and good relations will result.

We are what might be called a "secondary industry" manufacturer. Since we offer a wide variety of products to consumers, R&D necessarily is the essential base for our activities. Our corporate business strategy also revolves around this R&D.

So 2,200 of our entire staff of 7,300 employees nationwide are engaged in the R&D field; 80% of these individuals have completed either master's or doctorate courses. To facilitate our own innovations, we are making our own key chemicals, as well as developing our own phenomena, or organisms, and key technologies.

As a consequence of this policy, we have developed a unique system. Furthermore, we are charting out new territory entirely on our own and as a result our products are completely different from those of other companies. Naturally, it follows that "competition" is an alien concept to us. Moreover, I believe that the prime functions of the president of Kao is to create an environment for our employees in which the wisdom of the Almighty can be fathomed and transformed into innovation. Without the authority and prestige derived from this mission, the president would not be in the position to direct the efforts of others or enjoy their trust.

Kao, then, is devoting much effort to basic research, the essential meaning of which is the attempt to understand the fundamental, eternal truth.

R&D Relies on Mathematics

In the past, chemistry, physics, biology, and the other natural sciences were clearly distinct disciplines. But in reality natural science is not something that can be so neatly compartmentalized. Since it really needs to be treated as an integrated holism, I believe it is time for us to tear down the fences that have heretofore segregated the different sciences.

Thanks to the power of mathematics, computer science is today making tremendous strides. Mathematics is unique in the sense that it is nonexperimental by nature. From this nonexperimental sphere we can take hints on which paths to follow. In a sense, it is our staircase to Heaven. The techniques of mathematics can also serve as an interdisciplinary furoshiki, the traditional Japanese wrapping cloth, to neatly wrap up all the diverse elements of the various disciplines into one experimental system.

We also need to bear in mind that no really innovative technological developments can come about unless science and technology are thoroughly integrated and synthesized. Especially on the frontiers of discovery, such as work with thin membranes and extremely minute particles, where energy is flowing in and out of matter, if the miraculous powers of mathematics and science are not fully utilized then no real accomplishments are to be expected.

Then there is "particle integration."

We blend any number of substances in order to manufacture a product. Each of the substances that goes into the final product has its own unique characteristics and physical properties. When we add to these the new substances that we have discovered on our own, then through the grace and wisdom of the Almighty we are able to create new compounds that other companies cannot possibly imitate. These final manufactured products represent in tangible form the service that we can render to the consumers.

Considering this situation, it is appropriate that nearly all the important base materials we use are self-produced. Each year, thanks to computer chemistry, around seventy or eighty new varieties of materials that previously did not exist on the face of the earth before become available. Only one or two of these are of any use at all to us, and even those one or two useful materials require time-consuming research is involved before they can actually be used in our products. Just as in medical research, we run tests on nearly 10,000 research animals to make sure the substances are absolutely safe and their properties are appropriate.

As a result, nearly all Kao products require eight to fifteen years to develop to the level where they can be placed on store shelves.

Vertical integration in the corporate structure plays an essential role in this whole process. Our products naturally must be designed to match the desires and "needs" of the consumers they are intended for. At the same time, the "seeds" planted by R&D activities create countless technical possibilities for innovations. If the "needs" and "seeds" of our marketing and R&D activities are both taken into full account and fully integrated, then, we believe, the consumer necessarily benefits.

This being so, the complete "fusion" of R&D and marketing is required. Here again though, we always keep in mind the fact that the development of the concept is not up to us. The guiding rule of our marketing activities remains always that it is the consumer who really decides the concept, which we merely implement.

This philosophy forms the basis for our R&D.

Introduction to Research Activities

Kao's most basic R&D is carried on at our "fundamental research institutions"--the Recording and Imaging Science Laboratories, the Production Technology Institute, the Mathematical Science Institute and finally the Humanities and Sciences Institute, which just opened up in April 1989. The latter was established to apply an integrated approach to the investigation of the connections between the sensibilities and perceptions of human beings as expressed in fields like psychology and aesthetics and the natural sciences. Its operations are only just beginning, though.

In any event, as far as research is concerned it is extremely important to maintain a proper balance in functions between input from the widest possible range of fields and in-depth investigation of particular topics.

The importance of research management should definitely not be underestimated. Such questions as how much is expended on research facilities as a percentage of sales, which in the case of Kao it is 5%, or how many people are engaged in research are really not all that important. The important thing is the quality of the management handling the R&D. This is one of the most important factors deciding the future of a company.

Since I do not have time today, I cannot talk in depth about this question, but suffice it to say that a free exchange of information is also an extremely important factor in the fortunes of a company. It boosts motivation, and it boosts the potentiality of R&D. These things are all interrelated.

The interior of the building used to be laid out like that of university labs--small rooms with space enough only for the senior researcher, the assistant researcher and two technicians. Nowadays, however, things are completely different. Everyone interfaces in the same large room, with biologists and chemists and other specialists all mixed in together.

In March 1989 we opened up our "soft research center," the provisional title of which is the Center for Human Understanding and Enhancement of Sciences. This HUES Center integrates research on the humanities and sciences. With the help of computers, experts in these two major fields interface in their work.

The Production Integration System

Next, I would like to touch on the PIS or Production Integration System. The PIS combines functions of the Sales Information System and Production Planning System and thereby allows for inventory reductions and other streamlining efforts.

As I mentioned before, we have already been able to reduce our production staff from 4,500 to 2,000, and through the PIS we hope to eventually get that number down to 600. As far as possible, we are employing the most modern operations in the production process so as to eliminate the need for human beings on the production line. Furthermore, we are doing our best to predict accident and machinery malfunction rates.

Our policy also aims to introduce the most compact, high-speed production lines possible. Up till now factories dealing with chemicals have been characterized by lines of storage tanks with numerous metal pipes running along them. Now we are switching over to a vertical arrangement in which the operations are performed on a "top-down" basis.

For example, we have five-story production units, in which the various ingredients involved in a product work their way downward, being combined or whatever, until the final product emerges at the bottom. The operators are located about 600 meters away, and no humans at all interfere in the entire process. The plants that before burned brightly with electrical lighting now operate almost totally in the dark.

The horizontal pipes have been replaced by vertical pipes and the 200 or so varieties of products have increased to around 330. This amounts to a capacity of about 140,000 tons now, compared with 68,000 tons before. When the system is in total operation the 18 workers for each of the four shifts will be replaced by three workers for each of the four shifts, which means a drop from 72 workers to 12 workers.

As you can see, the production units are gradually becoming more compact and will eventually operate without any workers.

The Five Principles of Marketing

Kao relies on five marketing principles. Work in this division is carried out specifically through our new sales company information system, based on the premises that marketing information and innovation are essentials and that service support to retailers is also a must.

Kao also has its own market reserch affiliate. It primarily relies in its surveys not on a question and answer format but on queries designed to understand what consumers are really looking for when they purchase a product and what kind of concepts they have in mind. The company is trying to increase such sampling.

Of course, some people have absolutely no sense regarding such things, and their opinions can throw off the results of a sample. It is best to try to eliminate their input, so that it will not make the overall sample askew. It takes years of experience for a professional opinion surveyor to be able to decide which input should be excluded, but it is extremely important. For this reason we do not ask outside agencies to conduct surveys for us.

Also, we believe that sales should mean not just the physical act of selling but supply as well. In this connection, we have established a system whereby a phone call or input into a computer will inform the distribution center of what is needed and the item will be delivered to its destination within the next 24 hours.

Retraining of Surplus Workers

Of great importance to us at Kao are the capabilities of our employees, the members of our Kao family, and how to further develop their talents.

At first we thought of calling one of our in-company programs TCR, for Total Cost Reduction, but after further consideration we decided to retain the initials but replace the words they stood for with Total Creativity Revolution to signify our determination to develop the full potential of all of our workers.

During the next three years we expect to reduce the personnel in our production facilities to only 600, from the present total of more than 2,000. This will leave a surplus of around 1,900 people, although of course some of these will already be reaching retirement age. One of the greatest challenges facing Kao is to develop our own computer software and we need to retrain as many of these surplus employees as possible for the task.

We have consequently established a Systems Engineering Institute. It offers a one-year computer programming course and a two-year systems engineering course.

In addition, we are retraining the former production facility operators, most of whom are thirty-two to thirty-three years of age, in semiannual training courses at the Kao Technical School for the next five years. These groups will become total task forces that can be dispatched anywhere in the world to perform their job. An example of such overseas activity is the trial production facility at Plymouth in Massachusetts, which can turn out six million new floppy disks per month.

While these task force workers are working at an overseas site on a temporary basis, they will also be engaged in training local operators. The members of these task forces will be very multitalented, and I can see that giving rise to some problems in the future, especially in Europe, where the labor unions are very strong. This holds especially true for West Germany where the apprentice-master system is still in evidence and it is difficult to carry out many functions in a single job category.

Nevertheless, I firmly believe as I said before that a person is really only living in the fullest sense and playing his true role in Nature when he or she is engaged in a job that is wide-ranging and creative and has the opportunity to develop to the maximum extent possible as an individual.

In the past our desires were limited to receiving a salary or to improving our lifestyle by even just a little bit. But that situation no longer holds true. The most important thing now is to express our full creativity and to benefit society and as many consumers as possible. When a person can relish the happiness of knowing that we have fulfilled these goals, then he or she can feel the true satisfaction and worth of being a human being. Such a person's eyes will shine from his or her commitment to his family, colleagues, and fellow citizens. By doing so, a depth of humanity in ourselves that we never noticed before will be able to achieve true fruition.

Our Joy in Life

For Kao's management to really bring happiness to the greatest possible number of people, we must at all times stand firm by the principle that we are not in competition with other companies. It is often said that a given company is in competition with its rivals, is beating them or losing to them, and so on. But we must never be caught in the trap of thinking in such terms. To the end, we must remain concerned only with extracting the knowledge and wisdom inherent in our employees so as to benefit the greatest possible number of consumers. This is our mission.

In such a situation, we are naturally constantly striving to cut costs and improve quality. If we succeed, consumers will naturally buy our products, and we will be able to feed ourselves and our families.

Consequently, within Kao we do not talk in terms of the company paying monthly salaries or the executives providing the salaries. We like to think that our salaries come straight out of the pockets of hardworking consumers, some of whom are having difficulties making ends meet every day. For them the purchase of a single bar of soap or single bottle of shampoo can be a difficult choice. But it is precisely this choice that provides our own income. We constantly emphasis that this relationship should never be forgotten.

It follows that we do not think of our work in terms of manufacturing shampoo or soap or other products. Rather we like to believe we are offering these things to consumers, so that when they wash in the bath or at the sink they will feel a sense of satisfaction. Ideally, while in the bath they can wash away the sweat and cares of the working day and hum a tune, before joining the family at the dinner table for the little time they can all spend together each day. To know that we are helping accomplish this is our own satisfaction. We always tell our employees that thinking in terms of merely selling products is a totally wrong approach. If we can provide a little happiness to the homes of our customers, then we will have fulfilled our role and will know true happiness in life.

Thank you so much for bearing with me through this long speech.

This speech by President Yoshio Maruta was delivered on May 9, 1989 at the European Institute of Business Administration(INSEAD) in Fontainebleau, France.

SUMMARY CHART

CATEGORY	COMPANY			
	Philips	HCA	N. Telecom	Jergens
Type of product?	Consumer	Service	Industrial	Consumer
Do quality definitions differ within the co.?	No	Yes	No	No
CEO involvement?	High	High	Medium	High
Is quality effort formally organized?	Yes	Yes	Yes	No
How long has quality been implemented?	1.5 yrs.	4 yrs.	1 yr.	5 yrs.
Have many improvements have been seen?	Many	Many	Few	Many
What is the impact on the corporate culture?	Major	Major	Minor	Major
How many measurements of quality are taken?	Many	Few	Many	Few
Initial quality development?	Reactive	Proactive	Reactive	Proactive
Company emphasis?	Marketing	Customer Service	R&D	R&D

DIFFERENCES AND SIMILARITIES

Each of the four companies had unique approaches to quality management. None were carbon copies of another. The most noticeable differences between the approaches can be seen in the Summary Chart. The companies differ, for example, in the way they approach definitions, organization, CEO involvement, and measurements. The programs range in age from one year to five years, and have had different levels of impact somewhat mirroring the amount of time they have been in existence. Based on the categories listed, it is impossible to pull out a framework for what works and what does not work. A quality program has to be a unique expression of the company. One size does not fit all.

However, a few characteristics were shared by all four companies in the study. The initial reactions to the programs in the organizations were very similar. Each stated that employees were angry to be burdened by yet another encroachment on their time. Skepticism was also a familiar reaction. Staff worried that it might not be a serious effort on behalf of their executives. A second similarity was the use of Dr. Deming's teachings as a model. All four companies used some part of his philosophy in their quality programs. Thirdly, in every company management sought to involve each individual worker in the quality process, no matter what their job title. Stockclerks, janitors, secretaries and factory workers were included in the processes just as much as administration.

Lastly, all four organizations stated that at least in a little way quality management had had a positive impact on all functions. The effect may have been barely noticeable, such as a change in culture, but it was making a difference. If these organizations continue with their quality effort, the positive changes are limitless.

With regard to marketing, the reaction of any company's marketing department to a quality program essentially depends on many factors. We found that when beginning a quality program, the ideal company should be proactive rather than reactive; a company should not follow the quality fashion trend. It should recognize the importance of the customer and improve its operations in order to serve the customer in a quality way. Quality programs should be led by charismatic, devoted executives whose actions, not words, show employees that the company's movement towards quality is legitimate. Including all departments in the creation and maintenance of the program also encourages involvement, acceptance of measurements, and respect for awards. Finally, as the umbilical bridge between the customer and company, marketing should acknowledge its position as leader of the quality movement. As a member of a team, marketing must work for, not against, the good of the company.

CONCLUSIONS

Although we set out like crusaders to prove the err of each company's marketing ways, we learned our crusade was based on theories filled with holes. We had expected to find that the marketing function of each company was adamantly resistant in becoming more quality oriented. Since marketing is closest to the customer, it supposedly always stressed the importance of putting the customer first. So when the company executives decided to begin a quality program, marketing resented being told to do something they had been trying for years to implement. However, only two of the eight executives agreed that their marketing function was reluctant to participate in their quality effort. Those two attributed the crux of this reluctance to the difficulty in applying quality measurements to work which did not produce a visible, tangible product. The difficulty intensified when these measurements were forced upon the marketing area without its input. For any department in a similar situation, a hostile reaction would be expected, but there is the added clash of the marketing and quality personalities to contend with. While quality demands observance of strict rules and fulfilling menial tasks, marketing requires high energy and creativity, so marketing personnel associate it with boredom.

Nevertheless, marketing's resistance of any effort by its company to become more quality oriented is a case of cutting off the nose to spite the face.

EPILOGUE

As Dr. Locander had hoped, we learned much more than the workings of quality in marketing. It may not be clearly evident in the transcripts, but we experienced first-hand the casual prejudice against women in the workforce and even students of state schools. We also found that vice presidents are not omniscient demi-gods. Many times their manners reflected their companies' unique cultures; some were open and helpful, and others were evasive and hostile. In truth, these executives were simply human.

Most importantly, we learned how to relate to and work with powerful executives of prominent companies. In spite of their skepticism of our abilities, we learned confidence in ourselves, an important lesson for life.