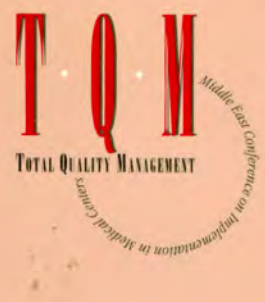

Total Quality Management

Proceedings of the Middle East Conference on the Implementation of TQM Systems in Medical Centers

Jerusalem, November 30 - December 2, 1993

Institute for Social and Economic Policy in the Middle East (ISEPME) Harvard University

American Jewish Joint Distribution Committee (AJJDC)

Alumni Society of the Harvard Middle East Institute (ASHMEI)

JDC-Brookdale Institute of Gerontology and Human Development

d Middle East Institute
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d University's Kennedy
School of Government or School of Public Health. ASHMEI aims to initiate and promote regional cooperation through projects in health, economic development, and social welfare.

The Institute for Social and Economic Policy in the Middle East (ISEPME) at the John F. Kennedy School of Government at Harvard University, was founded in 1983. The mission of the Institute is to promote social and economic development to support peace in the Middle East. ISEPME pursues this mission through policy research, education and training, field projects, technical assistance to governments,and programs which support the regionalization of commerce in the Middle East.

The American Jewish Joint Distribution Committee (AJJDC), founded in New York in 1914, supports non-sectarian humanitarian projects through its International Development Program. Since 1992 it has helped to initiate health projects such as the Israeli-Palestinian-Arab Program. ELKA-JDC-Israel, The Association for the Development and Advancement of Manpower in Social Services in Israel, develops senior management training programs in Israel.

The JDC-Brookdale Institute, established in 1974 as a partnership between the AJJDC and the Government of Israel, is an applied research center on aging, health policy and social welfare, It serves as a meeting ground for researchers , policymakers, consultants and professionals in the field and as a center for professional exchange, collaborative research and special forums in the international arena.

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This conference was organized in cooperation with the
Institute for Healthcare Improvement.

Jerusalem

November 1995

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Foreword

The Middle East Conference on the Implementation of TQM Systems in Medical Centers was attended by over 350 health care professionals, including directors, administrators, and senior managers from hospitals, medical centers, and nursing services in Egypt, Israel, the West Bank and Gaza, and South Lebanon.

The conference was designed to spearhead the improvement of health care in the Middle East by helping to identify and analyze problems within the participants' health care systems and by introducing the concepts of Total Quality Management as a means of improving these systems' efficiency and effectiveness. A second objective was to provide the opportunity for professionals from the area to meet and exchange ideas, laying the foundation for future cooperation.

This monograph, containing selected proceedings of the conference, will make the principles and applications of TQM and the exchange engendered by this unprecedented meeting of the region's top health care personnel, available to a wider audience. The volume, which is divided into sections on the basis of the conference's sessions, contains the formal presentations by experts from the U.S., Europe and the region as well as the greetings by dignitaries and representatives of sponsoring organizations.

In the months since the conference, a concerted effort has been made to continue the discussions begun in Jerusalem. As an outgrowth of the conference, a two-week training course in the methods, tools and techniques of quality management was held in Dahab, Arab Republic of Egypt in May 1995 for 70 senior health care professionals from over 20 organizations in the Middle East. It is hoped that the publication of these proceedings will prove valuable to health care policymakers, workers and researchers as they continue to pursue opportunities for improving the health care of all people in the region.

Shmuel Reznikovich
Chairperson, Academic Committee

Acknowledgments

We would like to thank all those who gave encouragement and assistance in organizing the Middle East Conference on the Implementation of TQM Systems in Medical Centers.

In particular, a special debt of gratitude and thanks are due to the official sponsors of the conference: the Institute for Social and Economic Policy in the Middle East (ISEPME), at the John F.Kennedy School of Government at Harvard University; the Alumni Society of the Harvard Middle East Institute (ASHMEI); the American Jewish Joint Distribution Committee (AJJDC); the JDC-Brookdale Institute of Gerontology and Human Development; the Ministry of Health, Israel; the Kupat Holim (Sick Fund) of the General Federation of Labor in Israel; ELKA-JDC-Israel, The Association for the Development and Advancement of Manpower in Social Services; the United States Agency for International Development (USAID); the International Development Research Centre (IDRC), Canada; and Electric Medical Systems, USA.

We would also like to thank the conference participants - health and management experts, health care professionals and dignitaries - whose attendance was motivated by a desire to improve the health care of all people in the Middle East.

Special thanks are due to members of the Organizational Committee and the Academic Committee who devoted their time and professional expertise during the year preceding the conference to ensure its success. We would also like to thank ELKA-JDC-Israel for its assistance in planning and designing the poster exhibit.

We are grateful to Prof. Donald Berwick for his professional support and guidance in designing and implementing the academic program, together with his colleagues.

Finally, we would like to thank Terry Benninga, Senior Editor at the JDC-Brookdale Institute, for preparing the proceedings for publication, Meira Aboulafia, Conference Coordinator, for her assistance in the preparation of the proceedings, and Elana Shizgal who did the typesetting.

Key Dignitaries and Session Chairpersons*

Martin Cherkasky, Chairman, Health Policy Advisory Committee, JDC-Brookdale Institute and former CEO, Montefiore Medical Center, New York.

Irit Cohen, Head, Manpower and Training Division, Kupat Holim Sick Fund, Israel.

Aleya Abdel Tawab El-Mohandes, ISEPME Alumnus, Egypt.

Sameh El Saharty, President, ISEPME Alumni Association; Egypt.

Abed El Gabar El-Tibi, Director of Preventive Health Services, Gaza.

Nahum Gedalia, Deputy Chief Administrator, Hadassah Medical Center, Jerusalem.

Jack Habib, American Jewish Joint Distribution Committee Representative in Israel.

David Habif, ISEPME Board Member and Chairman, ISEPME Alumni Association Committee; USA.

Abdul Aziz Haj-Ahmad, Director-General, Palestine Health Council, West Bank.

Leonard Hausman, Director, ISEPME, Harvard University, Cambridge, Mass.

Ali Khater, First Under Secretary of Health, Ministry of Health, Egypt.

Haim Ramon, Minister of Health, Israel.

Shmuel Reznikovich, Deputy Director of Administration, Ramban Medical Center, Haifa and ISEPME Alumnus.

Itamar Shalit, Deputy Director General, Research and Development, Surkasky Medical Center, Tel Aviv.

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* The positions listed here are those held at the time of the conference.

Miriam Ines Siebzehner, Ministry of Health and Gertner Institute, Israel and ISEPME Alumnus.

Alfred Wadie Yassa, Health Officer, Center for Development Services, Egypt and ISEPME Alumnus.

Presenters*

Donald Berwick is a practicing physician as well as Associate Professor of Pediatrics at the Harvard Medical School and Adjunct Associate Professor of Health Policy and Management at the Harvard School of Public Health. He is President and CEO of the Institute for Healthcare Improvement, a non-profit organization working to accelerate changes in health care systems.

John Bingham is the CEO of Magic Valley Regional Medical Center in Idaho, a 165-bed county hospital which was featured in 1992 by the Commission of Accreditation of Health Care as "one of six hospitals striving towards improvement and in search of quality". Mr. Bingham has a Master's Degree in Health Care Administration and has participated in the development of quality improvement education programs which are offered nationally.

William Jackman is Director of the Quality Assurance Program for USAID - the United States Agency for International Development. In this capacity he is involved in monitoring international projects on quality assurance, systems analysis and training.

Hugh Koch, an independent consultant, has a Ph.D. in clinical psychology. He is Managing Director of Koch Consultancy Services in the United Kingdom.

Rashad Massoud is a leading Palestinian health expert. He heads the Central Unit for Quality of Health Care for the Palestinian Council of Health. Between 1991-1994 he was the Medical Officer for the United Nations Relief and Work Agency in the West Bank. In addition to his medical degree, he holds a Master's in Public Health from Harvard University's School of Public Health.

Paul Plsek, an independent consultant with fifteen years of experience in the field of quality management, is President of Paul E. Plsek and Associates. Since 1988, he has concentrated his efforts in the field of health care, working both in the USA and abroad. He is co-author of the book *Quality Improvement Tools* and is Associate Editor of the journal, *Quality Management in Health Care*.

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* The positions listed here are those held at the time of the conference.

Mitchell T. Rabkin, Ph.D., is President of Beth Israel Hospital in Boston, a position he has held for 29 years, and Professor of Medicine at Harvard Medical School. Among numerous responsibilities, Prof. Rabkin served on the Advisory Council of the Institute of Medicine of the National Academy of Science and currently serves on the Health Advisory Committee of the U.S. General Accounting Office.

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Opening Remarks

Jack Habib: I am pleased to have the honor of opening the first Middle East Conference on the Implementation of Total Quality Management Systems in Medical Centers. The organization which I represent, the American Jewish Joint Distribution Committee, is very committed to the ideas and ideals behind this conference. The AJJDC sponsors programs which promote health and social services in Jewish communities and nonsectarian projects worldwide, out of a belief in solidarity across communities and across peoples.

But, and this is very much what this conference is all about, we believe not only in doing for people but primarily in helping people to do more for themselves. And that means we have to look not only at individual needs but also at the needs of systems and organizations. How do we help to design systems that are better able to meet people's needs? How do we help organizations to mobilize their resources, including latent energies, skills and talents, in order to serve people better on an ongoing basis. This is what this conference is all about.

As an international organization, we are also very much involved in how to take general principles and apply them in different countries and how to translate experiences across cultures, communities and national boundaries. We are very aware of the possibilities for, indeed the necessity of, this kind of transfer of knowledge and experience. At the same, we are also aware of the dangers of inappropriately applying general principles without careful attention to local factors. So an important part of the challenge that we all face is how to take general principles, some of which we will be hearing about during this conference, and apply them appropriately in different settings.

Many people from many organizations have helped to make this conference possible and you will hear more about them later. I feel though an obligation to mention one organization, the Alumni Association of the Institute for Social and Economic Policy in the Middle East at the John F. Kennedy School of Government, Harvard University, whose exemplary dedication played a crucial role in making this conference possible.

Now that the conference has begun, its success will depend to some extent on what has been organized, but to a large extent on you, the participants. The final measure of the success of these three days will be what happens after you

return to your respective communities: whether you will be promoting the ideas heard here and putting them to work in the service of the people that you serve.

The success of the conference will also be judged by the extent to which it enhances the desire and interest of all of us to continue to learn and work together in the future. So, not only the content of the presentations but also the spirit of what goes on here, whether in the formal meetings, outside the formal meetings, at the lunch breaks, or in the evenings, will be an important factor in determining this conference's success.

I think we should keep in mind that we, as a group, have taken upon ourselves a very difficult task. This is a very large and diverse group which comes from many different cultures and nations. In addition, it represents a range of medical professions that do not always communicate well with each other. It brings together people with very different degrees of exposure to the major themes that will be addressed at the conference. It tries to take this whole group and not just to have a conference where papers are presented and people can listen or not. Rather, the conference has been designed as a structured, mutual exploration process: Through presentations, simulations and discussions, a set of ideas, each one a step that builds on the other, will be linked together.

So we will need a little bit of luck and a helping hand from everyone here to make this ambitious program as big a success as it can be. I look forward in the next three days to learning with you and from you, and to working together in the aftermath of the conference on the next steps of what will hopefully be an ongoing process. I would now like to introduce our first speaker, Prof. Berwick.

Need and Opportunity for Improvement: Tension for Change

Donald Berwick: It is a great pleasure and privilege for myself and my colleague, Paul Plsek, to have the opportunity to participate in this conference.

Before I begin, I would like to allude to Jack Habib's opening remarks about the complexity of extrapolating ideas from one context or culture to another. As we think about quality management, we are already translating concepts that have developed in fields outside health care into health care contexts. Now, in addition, we are faced with another challenge, to take these ideas and translate them from the cultures of North America and, to some extent, the Far

East, into the cultures which each of you represent. Paul and I will be unable to do that. It will be up to you to tell us how the concepts that Paul and I will be bringing to you fit or do not fit into the Middle Eastern context.

One other cautionary note before I begin my general remarks. Many of the ideas that we'll be discussing in the next two days were developed in hospital settings. So even though much of the time we'll be using terminology about hospitals, we hope and believe that the principles we'll be exploring are equally applicable to systems of primary care, outpatient settings and, even more, to community-based efforts to improve health status.

Now with those introductory remarks concluded, let me begin. In the United States, the whole idea of TQM, or Continuous Quality Improvement, has been widely embraced and widely spoken about but frankly very little understood. TQM has emerged in the United States as a bit of a fad: It is now almost impossible to be an executive in any company or hospital in the United States without claiming that you're doing Total Quality Management. Consequently, the field of Quality Management appears to me to have somewhat lost its moorings.

The ideas that we will be exploring this morning and during the rest of the conference are scientifically grounded. They come from decades of research, applications, and practical experience in many industries, all of which are trying to understand the answer to a very simple question which is: How can we improve faster?

The concept that quality management is a program or a simple set of terms which can be introduced rapidly into an organization and produce immediate positive results is naive. In our opinion, quality management, or whatever term we wish to use for modern approaches to improvement, is a complicated set of ideas that are more sweeping in their impact than any particular program or course of training. I would like this morning to work with you toward an understanding of a set of principles which if studied, refined, mastered, and used by leaders in complex systems will, in the long run, produce a system more capable of improvement than those run by traditional approaches to leadership.

So my first general point this morning is that quality management is not a program. It is a way to think about improvement. It is a set of questions to be asked about how to enlist the energies of people in complicated organizations

and systems to work more effectively together toward continuously improving the effect of their work.

The second point is that it is not an end in itself. The proper management of systems is a means toward the improvement of those systems. To use the methodologies of quality management for most organizations requires some degree of change. The energy for the kind of change needed arises only when there is sufficient sense that we need to improve the effect of the system on the people it serves. In other industries, that sense of need for change emerged from economic considerations. When, in 1980, the president of Ford Motor Company said he wished to use new managerial methods, an interviewer asked him: "Mr. President, why are you interested in changing?" He said, "Well, in 1979, Ford Motor Company lost 2.3 billion dollars. And in 1980, Ford Motor Company lost 2.3 billion dollars. We lost 4.6 billion dollars in two years. It focused my mind."

There are several issues which are indicators of the need for change. In the United States, for example, in health care, the issue of cost is driving the economy into serious difficulty. We are spending 12-13% of our GNP on health care. The next highest country, Canada, spends 40% less, and most of the world spends even less than that. We know that in the developed world, it is possible to have excellent health care for as little as half the money per capita that the United States currently spends on health care. The excess cost is impeding the competitiveness of American industries and so a lot of the pressure for change in the United States is coming from the industries and the government who pay for health care and think they are paying too much.

A second issue in the United States is growing evidence about the degree of variation in the way we use health care resources. Prof. Jack Wennberg of Dartmouth Medical School, for example, studied the hysterectomy rate in two areas in Maine. In the hospital serving area A the probability that a woman would have her uterus out by age seventy was 20% whereas in the hospital serving area B, the surgical rate by age seventy was 70%. And these two hospitals were only sixty miles apart.

In the United States we have a great deal of evidence proving that physicians, hospitals, and areas can differ by as much as 300-400% in the usage rates for surgery, hospital beds, clinical procedures, and medications. This kind of variation worries the American public greatly who perceive it as an indication of chaos in the way health care resources are used. The physicians in hospitals have been rather defensive saying that there's an art to medicine and that this

variation has an underlying meaning. But people have looked for the meaning, and have found little justification for this level of variability.

In the Middle East, I do not know what pressures may force you as leaders towards the concept that change is needed. What I do know is that in order for this conference to have meaning, you must begin with a deeply held conviction that the current level of performance of the system you lead is not adequate to meet the challenges ahead.

Now some of you may feel that improvement is required but that the central issue is the issue of resources: if you cannot find more money, more staff, more space, it will be impossible to meet the needs that face you. Now I would be the last to oppose increasing the resources for health care in any developing area of the world, certainly in the Middle East. However, quality management takes a different approach, saying that resources will always be limited. Therefore the question that quality management addresses is how to use the resources that we do have more wisely in order to get more value for the money we currently spend.

Let me ask you to become active participants for a moment in order to better understand this issue that I've raised now about the need for improvement. What would you say if I asked you the question: Are you satisfied with the current level of performance of the system you serve, its ability to restore health, to ease pain, to prevent illness, to meet the needs of the public you serve, or are you dissatisfied? Is improvement needed in the system for which you bear responsibility? I would now like you to take a minute or two, turn to the person next to you, and talk for a minute about that question. Please try to be specific about the improvements you would like to see occur.

Now the conversation you've just begun is probably not new to you. I want to emphasize that this conversation must not end. The willingness to inquire of yourself and of each other about the nature of the improvements needed underlies everything we're going to discuss in the next two days. Without the urgent sense that improvements are required, quality management falls on sterile soil.

Now to the third general point. The first one is that quality management is a comprehensive set of ideas, not a program. The second is that its fundamental energy comes from the need to improve. The third point is that the need to improve in quality management terms always lies in the intention to serve another. Quality management has developed as a business strategy so there's

an essential orientation toward identifying a need in the community called a market need. Quality management in the United States uses the term customer. In health care contexts this presents some problems because it implies a commercial relationship. "User" would be an alternative. You must find the term which is good for you. But the terminology must imply that there is someone who depends on you and whom you intend to help. That's the essential notion - that it is in the eyes of the user, the client, the customer, that the real nature of quality lies. That's a very difficult idea for health care practitioners because we're taught that we're professionals. I'm a physician. I certainly don't want my customers, my patients, deciding whether I should treat them with penicillin or erythromycin. That's my choice. But in the end, says this field, the correctness of the choice between penicillin and erythromycin lies in the experience of the person I'm trying to help. Is their pain relieved? Is their question answered? Are they back at work? Have they lived a full and productive life?

Quality managements orients our energies toward the people we serve and gives them the right, in the end, through their experiences, to judge the quality of our work. In this field, the definition of the term quality is the degree to which my work meets needs. This idea that quality is meeting a need or that improvement is needed is not a new idea. For centuries, craftsmen, managers, leaders and doctors have been trying to meet needs and for centuries they have been dissatisfied, to some extent, with the degree to which those needs have been met.

The quality management method proposes that the prevailing approach to the effort to improve is less effective than a set of approaches that we will be exploring this morning. What I'm going to do in the remaining half hour is to work with you around a description not of quality management but of the prevailing approach, at least in the United States, so you can think with me, and with Paul Plsek, about a set of principles more likely than the prevailing approach to produce improvements.

Let me first describe the prevailing approach in terms of my own work. My job in the early 1980s was to be the quality assurance officer for a large health care system. During that period of time, I became concerned about the one-hour waiting time for service in the radiology unit. As quality assurance officer, I was able to set in place a simple measurement system: When the patients came to register for their X-ray, the clerk would write down the time they entered and then the time they finished. This information was sent to my office where my staff calculated the time interval, put it in a computer, and

received a printed record of the average waiting time. The average waiting time in this particular unit had been about one hour for a long time. Then, in April of 1986, the data showed that the waiting time had fallen to two minutes. It had been sixty minutes, now it was two minutes. And then it was two minutes again in May and June. I was very impressed and I went to congratulate the supervisor. I also, of course, asked her how she had done this, hoping to be able to take this information to other radiology units. She looked at me and said: "It was very easy, Don. I lied." I lost my composure briefly and I said, "Excuse me, you lied? What do you mean?"

She said, "It was quite simple. I simply instructed my staff to fill out a bunch of fake forms with two-minute intervals and I sent them to your office. You put them in your computer and printed the chart." When I asked for an explanation she said, "I thought you'd be happier. I knew I would be happier." And then she said something that was quite a revelation. She said, "Let me explain to you. Every month, I collect this information and send it to your office. You put it in your computer and print out this record of sixty-minute waiting times. That record goes to my boss's boss's boss. He circles the sixty-minute waiting time in a red pencil and writes in the margin, "Please look into this." And he sends it to my boss's boss, who circles the red circle in a pink circle and says, "Can you find out more?" And he sends it to my boss who circles the red circle with the pink circle with a yellow circle and writes in the margin, "Jo Ann, fix it." And they put it on my desk as if I did not already know that the waiting time was one hour, as if I wasn't doing everything I could think of to speed the flow of patients through my unit."

For me, this was an awakening. I began to understand that the simple intention to get better, the simple use of inspection and exhortation and even incentive had very little to do with the underlying question of how improvement can happen. I was observing not a lack of will, not a lack of accountability, not even a lack of motivation. I was observing a lack of capability in a system which wanted to do well but did not know how.

The Parable of The Red Beads

Donald Berwick: Now I would like to explore this phenomenon, which I call the prevailing approach, through a game. One of the key thinkers in this field is a man named W. Edwards Deming. Deming has developed a demonstration about this prevailing approach which I'd like to present during the next fifteen minutes. The idea is very simple: I'm going to start an organization right here and now, and we're going to make that organization get better.

I will be the organization's boss. Now, the first thing I need is some workers. Could I have some volunteers, please. I need four people. Please come up here. Do we have the appropriate mix of nationalities? Welcome workers. Just stand there. Here are my four workers. Don't they look great? I don't accept all candidates. You notice how badly people need work. If we have people that don't perform well, we know that there are plenty of others who will step forward. So I don't just take every worker. You have to be willing to work very hard.

Worker: What type of work does our organization do?

Donald M. Berwick: Well, here's an intelligent worker. He wants to know what work we do. Well, let me show you. We run a company here which makes beads. Would you like to make beads? Very good. Right over here is my bead factory. Don't touch the beads until I tell you. Does anyone know why we make beads? We make beads because people want beads. People put them on their clothing. They decorate things. They play games with them.

Here's how we make beads. Here I have a container full of "raw" beads, and here I have a plastic paddle with 50 holes in it. Fifty holes, each one the size of one bead. To make beads we take the paddle and stir the beads in the container clockwise three times. Then we dip the paddle under the beads and allow one bead to fall into each hole thus making 50 "finished" beads. That's a day's work. That's the job. Do you like this job? It's a good job. I'm a good boss. We pay well. We have people who want to buy the beads. Do you notice anything about these beads, by the way?

Worker: There are different colors.

Donald Berwick: Different colors. Very good. This man is a potential supervisor. Some are red, some are blue. But here we want to make blue beads, not red beads. Do you understand? Nobody wants red beads. They are like scrap. We don't want them. We only want blue beads.

Worker: Then why did you mix them?

Donald Berwick: This worker is starting to ask questions. That is not your job! You follow my directions and it will come out fine. Okay? Stir three times, stick in the paddle and make blue beads. Understand? Now in the United States, we often have company slogans. Our slogan is "We make blue beads". What kind of beads to do we make here? Blue beads. All together:

"Blue beads". Very good. You have to motivate your workers. Now, Worker A, would you like to be trained? Well, let me see you make our product. You stir three times. Clockwise. And then you stick the paddle underneath. Dip it in. Very good. You have some red beads in there though. What do we make here? Blue beads. Well, we don't want to discourage this trainee. As time goes on, there's a learning curve and he will produce more and more blue beads.

Now, there's one other thing I need. You have been watching carefully so far, I hope. What am I missing? I have a work force. I am a good boss. I have my company. I have everything I need except one thing: Quality control. If I don't have quality control, I'm going to make bad beads. So I need to have a quality function. I want to have a good company, right? Who would like to be my quality control officer? It's a good job. Good, here's a volunteer. Just stand over there.

If you'll just wait a moment, I'll teach you your job. But, before I do that, I would like the workers to feel much more relaxed about their jobs. I wonder, workers, would it be possible for you to tell me your first names? What should I call you? Raghda, Shehad, Nurit, and Adnan. Good. Now I have my workers' names and they are nice and relaxed. Now I can make my quality assurance report.

My quality assurance officer here will simply count the red beads. His job is to count the number of red beads and write it down as each worker does his job. By the way, I want you to know that my marketing department reports a demand for our product.

So let's get started. You first, Raghda. Three times clockwise. She did it right. She's a very fast worker. Did you notice how quickly she stirred? I'll go over here to my quality assurance department. Now we are going to be shipping these beads out in a moment, so we have to check for red beads. Oh, my goodness, Raghda, you have seven red beads. And what do we make here? Blue beads. It is only Raghda's first day of work though, so I won't fire her. But I may have to put her on probation.

Now it's Shehad's turn. Were you watching Shehad do his work? He had only five red beads. Nurit, would you like to try now? Please go ahead. Well, I'm getting a little bit worried. You see, as the manager of this company, I know what's happening out there in the marketplace with all the competition. And how many red beads does Nurit have? Thirteen! Nurit, what is the problem here? This is not acceptable. This has me really worried. If we make too many

red beads, we can't ship as many blue ones. If we can't make more blues, we'll get into trouble.

Adnan, it's your turn. And how many red beads have you made? Sixteen! This is sabotage, Adnan. We can't have this. I'm very worried. I have two fair workers, but the other two are terrible. We need to make some changes around here. I'm going to have to hire a consultant and get some changes made here. And now Raghda has fourteen reds. The problem here is that the workers don't understand the importance of doing proper work. They aren't getting the right incentives. A bad incentive means that if they do poor work, they still get paid the same as if they do good work. Now Shehad has made ten red beads. You see, everyone's deteriorating. We are going to have to put an incentive program in place. These workers will have to be paid based on their performance. From now on, workers, anyone that gets five red beads or less will get a bonus. If you get six to ten red beads, no bonus. Over ten, you are on probation.

I would like you to get back to work and this time do better. Now your pay depends on it. Do you understand? Okay, Nurit, you're next. Watch the improvement occur. Nurit, stir three times. No, don't try to pick the beads. I'd like you to stir. She says she's fiddling with the method. She wants to change it. But, Nurit, I don't want any fiddling with the method. Just follow my instructions. Watch, now that the workers understand the relationship between pay and performance, they will start to do better. I've now made it important for them to do better. Well, Nurit has ten reds. She got better right away. She's still terrible, but ten is better than thirteen. Nurit, you're on the right track now. The incentive program worked. Now Adnan can try. No, that's counterclockwise, Adnan. Good, stir it three times. He's working fast. I can see his enthusiasm. I hope you understand that if you don't have this kind of incentive system in place, you should not expect much improvement. It was a mistake not to set it up at the beginning. There, you see, five red beads. Adnan got better. You get your bonus.

The problem is I didn't explain why the target was five red beads. The reason we have to make five red beads or fewer has to do with the competition. Can anyone tell me who makes beads besides us? The Japanese make beads. When the Japanese make beads, for every 50 beads they make, they only make five red ones. So we have to beat their performance. We have to at least equal their performance. The problem is we have to make five or fewer red beads per fifty and the workers have trouble understanding that. Actually, I have noticed it sometimes helps to have a slogan. Can somebody come up with a

slogan that reminds them they need to make five or fewer red beads? "Five to survive"? I like that. Would you please write that down? Workers, do you see this slogan "Five to survive"? This will help you remember your goal. I'll count to three and you say "Five to survive". One, two, three: "Five to survive". Did you notice how morale increased when we said that?

As we go from day to day, I'm getting more and more worried. Things aren't improving and it is time to get really serious. Raghda, now remember you are on probation. Don't be worried - just perform. Well, she says she's trying but look at her performance. She is getting worse and worse. And at first she was my best worker.

I've just gotten a report from our marketing department. With our current level of performance, we cannot stay the size we are. We must have layoffs. Raghda, guess what? It's goodbye. I don't like doing this. Take your seat, you're fired. I'm not a mean person, but, unless I'm perceived to be serious about performance, we won't get the performance we need. I hope you've got the message now. We can't keep workers that don't perform. Please go ahead Shehad. This is the hard part of management. This desire to do the right thing sometimes means making hard choices. What are you doing, Shehad? I've never seen a worker take so long. He didn't even do a full day's work. He left a slot empty. Eleven red beads. Shehad, you're fired too. Go sit down. This cannot go on. I'm getting reports now that we've lost one part of our market share. The workers don't understand. They don't understand that there is a company to run here. Your turn, Nurit. Eight red beads. Nurit, you've improved slightly, but you aren't even close to the Japanese standard. Now Adnan, again. No, you are going counterclockwise again, Adnan. Oh, go sit down everybody. We're out of business. Yes, go sit down. Can I have a little bit of applause for the workers?

Now I have just been demonstrating the famous bead game W. Edwards Deming uses. It was developed not by Deming but by his teacher, Walter Shewhart. Now what you just saw was a system. It was a production system. It had an aim - to make beads. It had a quality that was desired - blue beads. It had a work force which was somewhat intradependent. The survival of the company depended on the overall performance. We had a measurement system in place. We knew how we were doing. We immediately shared that information with the workers. We had a market that was interested in buying our product, at least at the outset. We also had workers who at the outset wanted to do well, at least so they said. I have no reason to doubt that they were interested in doing this work. They chose it. In fact, I had an

organization with a great deal of potential, didn't I? But it failed. Now at one level, if we ask the question "Why did it fail"? the answer is simple. It failed because its results were inadequate. But, why was this? What properties of the organization made it unlikely to succeed? Why could it not improve? What was missing here that would allow improvement to have occurred?

Now I would like to continue this conversation at the break and through the day. I want you to think about the bead company and ask yourself why it did not improve, why it could not improve? What theory was it using to improve and what new theory or approach might have helped it? As you think about it for a moment, what are the reasons why this company did not improve?

There was a system. There was a system for production. The system included the bowl and the beads and the paddle and the boss and the workers. The work system also included an incentive program, posters, buttons and slogans. There was a system but you mean something different, don't you? You mean there was no system of improvement. The work system existed but the improvement system did not exist. But wait a minute. I'm the boss. I ran the company. I had an improvement system. The improvement system included incentives and a recording system and quality control and measurement. What do you mean I had no system of improvement? I, in fact, was working very hard to get improvement.

Shehad says the boss was in the way. But, Shehad, I put in the incentives to get you to do well, didn't I? Someone's questioning whether we are oriented toward the client or the company. I think I'm oriented toward the client. I know that I want to sell them blue beads. Something is missing.

Now someone's saying that I didn't give training, that I was yelling to change performance and did not show them how. But there was training. Remember I trained them in the system. I told them how to do their work. You mean something else. You mean I did not induce changes? I changed the incentive system. I changed the compensation. I gave them posters and buttons.

Someone says that I should sit and talk with the workers. Didn't you watch these people? Didn't you see that when my back was turned, these workers were cheating? Some of them went clockwise instead of counterclockwise. Some of them were picking out beads. Should I trust these workers? They are cheating. In fact, I'll bet they were planning a strike.

Now these last two comments are addressing the issue that we will be getting to after the break. There is something going on in the company that we might call causation. Red beads which we do not need are caused. They are a property of the system. In fact we have seen that the system has tendency to produce red beads at some ongoing rate, with some variation around that rate. There's an ongoing rate which will be described as the average and there's variation around that rate. That ongoing rate and that variation are a property of the system. Now the boss offering incentives, making slogans, yelling at the work force, congratulating Nurit, yelling at Shehad, is thinking about cause. He thinks that the cause of the defect is - what? The worker. But you know that those workers are trapped. It does not matter how hard they try. For them and for any other group brought into that system, the performance will remain the same because the performance is a characteristic of the system. The question of improvement in the bead game is how to change the system of production with full awareness of the underlying cause.

What's the cause of red beads in this system? It is the mix of beads in the bowl. It is not the workers. In this case, it is the supplies. Any work group brought into that system will produce that level of performance. In the next session we will explore a series of principles which, if used in the bead factory's system, would allow that system to continuously improve.

Session II . . . . . .

Principles of Total Quality Management

Paul Plsek: In this session we will be exploring the basic principles of total quality management. It begins with the concept of process, a sequence of steps leading to a product or service. It continues with the notion that there is someone who comes to you for a service. There is a debate as to what is the right word: customers, beneficiaries, users, patients. We haven't yet come up with a single word that everyone is happy with. The point is, however, that they've come to you because they need a product or a service. They are the customers.

Now, given this customer-beneficiary-user party, the next key issue is to identify their needs and expectations, and ask how well am I doing in meeting those needs and expectations. It is easy to become only inwardly focused. We are concerned, rightfully so, about lack of resources. We are concerned, rightfully so, about problems of internal management. But let us also be equally concerned about the needs of the public and the community, the needs of the customers.

A third important principle of quality management is the principle of variation. Here there are two points. The first point is about looking at data. We showed earlier in the bead game that the outcome of a process can be variable even though, and this is important, the process is the same every time. Stir this way, put the paddle in this way, cover up the beads this way. Even if we do it the same way every time, we get variation in outcome. This is what happens in real life. As managers, unfortunately, we tend to look at the highest number or the peaks on the graph and ask: Who did that? Who's responsible for that outcome? When, in fact, the process may be responsible for that outcome.

A second point about variation is the concept that not only is the process a sequence of steps but it is a collection of people, machines, materials, methods and measurements that interact with one another. In the case of the bead game, the most important source of variation was the supplies, the beads that were in the bowl. For some other type of problem like medication errors, any of these things may be the source of the difficulty. We may have problems in the computer system that is used to fill the medication orders or the machines in the pharmacies that are used to fill the orders. We may have problems with the input of information: The pharmacist gets the order and cannot read the physician's handwriting. So when we want to improve a system, we need to

look at each of the components and not focus on only one, for example, the workers.

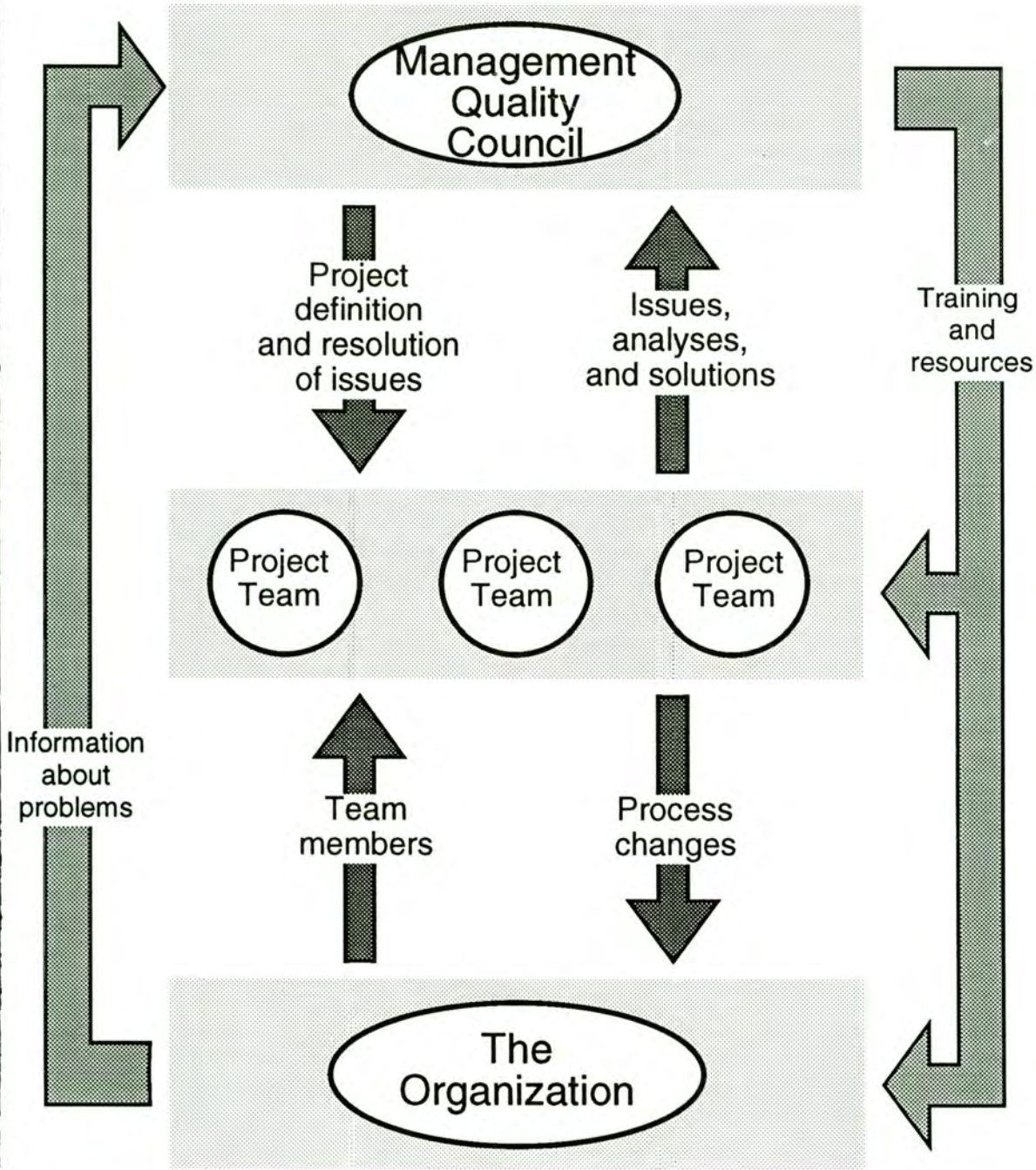
The fourth point or principle of quality management is the notion of continuous improvement. It is not sufficient in a changing world to make an improvement once and then assume that that improvement will make the system operate optimally for the rest of time. In fact, the systems that many people find themselves trapped in were once improved by someone else. An improvement from ten years ago is not adequate for today. Improvement is an ongoing and continuous operation. Even after a series of improvements over time have been made, the question is not, is it perfect yet? The question is, is it better than it was before? If we constantly ask that question, then we are constantly improving.

How do we do this improvement? The fifth principle of quality management is the notion of scientific method. What do I mean by that? Scientific method is the way that medicine and health care advance. We have a hypothesis about the world. We gather data and, perhaps, run an experiment. We learn something about what works and then we put it into the system. The key idea here is that decisions are made based on data, not on what I, the boss, think is the best way.

Finally, the last two concepts: a view of people and transformation. One of the things that I'm sure you noticed in the bead company was the boss' view of the workers and their abilities. We often view the people who do the work as workers that can be replaced or interchanged. We often don't take time as leaders or managers to listen to what people have to say. Did you notice how quickly the workers in the bead company figured out how to improve the system? It only took them a minute of looking at the process to know immediately what needed to be changed and yet, we didn't have time to listen to them. We have busy schedules. The clinic is full. There are many patients waiting. There are many priorities. We have meetings to go to. Not having time to listen is an unfortunate cause of much of the lack of improvement within our systems.

We need to form project teams to work on making improvements in the process. We need to ask the people in the organization to provide information about problems and we, as senior managers, need to seriously listen to what they have to say.

Figure 1: Organizing for Quality Improvement



The final principle is the notion of transformation of leadership. What is a leader's new job in this kind of system? This is depicted at the top of Figure 1. The leader's job is to listen to information about problems and the systems. A leader's job is to define projects and to provide resources to the organization to make improvements. It is not sufficient to listen to a cause of a problem and then to tell the workers go fix it themselves. They may need some resources. They may need some further encouragement. The final job of leadership is resolution of issues. We have a group that's looking at trying to reduce the medication errors and we find that the physicians, or the nurses, or the pharmacist don't want to be a part of solving the problem. Senior leadership's job is to see to it that the right people are in the room so that we can resolve issues.

So, to summarize, quality management means improvement based on a specific method (see Figure 2). The method of improvement that will be used to improve a system will focus on the process as a sequence of steps. It will be aimed at serving the needs of the customers. It will understand that variation

Figure 2: Principles of Quality Management

- ***Process***
- ***Customers***
- ***Variation***
- ***Continuous improvement***
- ***Scientific method***
- ***View of people***
- ***Transformation***

is natural in processes. It will understand that variation comes not only from people but from the machines, materials, methods and measurements. It will use a scientific method to continuously improve and it will use the people who work in the process as resources who can help determine where to make improvements. This will transform the way leaders work and the way organizations work.

Don will now talk about the implications of these principles for management. We will then have a general question and answer session.

Implications: Old Way and New Way Management

Donald Berwick: Paul has laid out a set of principles which if understood and used by the leader in the bead game would have made it possible for the work force to become involved in improvement, would have introduced what we could call a system of improvement. A system of improvement would be focused on process, would be mindful of the needs of the people who depend on the process and imbue leadership with that awareness, would interpret variation in a sophisticated and informative way and instead of responding to random variation would look at the process as a whole, would be oriented toward the continuous improvement of the process and not toward the maintenance of the history of the process, and would use scientific discipline, inquiry, experiment to generate new ideas about new process. This would lead, in the end, to transformation. The word transformation sounds like a vague and visionary notion. But its meaning will become clearer as we begin to understand in a more concrete way the nature of a system of improvement and its implications for leaders who, I will argue, in many cases will need to transform their theory, their behavior, their priorities, and their investments to support this system of improvement.

In the simulation exercise and in our discussions on technical aspects, we'll call them the engineering principles of process improvement, we refer to a set of tools of improvement. These are very powerful when, for example, we want to understand where the beads come from or when we want to engage in experiments to take the red beads away. However, based on a good deal of experience inside and outside health care, we know that these tools, no matter how promising they are, do not thrive in all cultures. By the word culture, I mean, the general behavioral and attitudinal system of an organization. This is an important premise. In order to change the capability of an organization to work on its own processes, we must change the attitudes and behaviors that characterize the organization, not just teach it new skills.

Now I think I can best introduce this idea in a more compelling way with an example that I often use in the United States. It has to do with an experience I had teaching pediatric residents and interns in a hospital in the Harvard Medical School system. I know very little about pediatrics anymore but the students know that and they don't embarrass me by asking me pediatric questions. Instead, they ask me about quality. In this particular session they asked me to tell them about quality.

I said that we would go look at some quality issues and asked to see a patient record chart. They brought me the chart of a little girl who was in the hospital for a kidney infection and was receiving antibiotics intravenously. The general mode of treatment for a kidney infection is to admit a child if she is sick enough to the hospital, gather a sample of urine in the emergency room, and send it to the laboratory. Since it takes several days until the laboratory report comes back, the interim treatment is to use antibiotics that are relatively powerful, quite expensive and that kill many kinds of germs. When the laboratory report comes back on the second or third day, you can narrow the treatment to the specific germ.

Now, in this case, I opened this little girl's chart to the physician's progress note from the sixth day of her hospitalization. I noticed that she was still on these very powerful and expensive antibiotics, instead of having had her treatment narrowed to a safe, inexpensive antibiotic. When I asked why treatment hadn't been narrowed to the correct antibiotic, the residents told me that the urine specimen had been lost.

Now let me ask you, is this a quality defect? Yes. Is it expensive? Yes. Does it involve the customer? Yes. Has this ever happened before? Yes. As long as this hospital has existed, it has lost urine specimens. Do you predict that the hospital will continue to lose urine specimens? They said, "Well, yes. We always have. I suspect we always will." Now as you think about the bead game and that variation in red beads, do you get the feeling we might be looking at a red bead situation where there is a chronic level of red beads, a chronic level of lost urine?

There's a saying in quality management that goes like this: Every process is perfectly designed to get exactly the results that it gets. And that's what the residents told me. We have lost them. We lost it and we will lose it. Now being the good bead boss, I turned to the residents and said, "Stop it. I want you to stop the loss of urine specimens. I don't want any little girls getting antibiotics they don't need. It's expensive and it's hazardous and I don't like

it. Stop it or I will flunk you." What did they say to me? "It's not us. We didn't lose them." I said, "Oh, excuse me, who lost them?" They said, "The lab loses them." So I went to the laboratory and I said to the laboratory director, "Cathy, when the urine comes here, please don't lose it." What did Cathy say to me? "Not us. We don't lose them." I said, "Well who is responsible?" Cathy said, "The nurses, the nurses in the emergency room lose them." So I went to the nursing department and I talked to the nurse there, Louise. And what did Louise say? "Not us. We send it. It is the aides who carry the urine. They don't deliver it. They have a big closet somewhere and they put all the urine samples in it and they never bring them to the laboratory." And so I went to the transport department and what did they say? "Not us." Around and around and around. Do you get this sense of helplessness in the perpetual search?

This is a little more complicated than the bead game, isn't it? In the bead game, the workers could see the cause. It is in the bead mix. But here the cause is a little more difficult. Where is the urine? Where does it go? How do we lose it? What is the cause? You are 300 people in the room. How many different ideas do you think are in the room about how to lose a urine sample? There are probably 50 or 60 ideas of different ways that we could lose urine samples. Of those ways of losing urines, how many actually exist in the hospital? Even though there may be 50 different ways to lose urine, there's probably a small number that explains most of them. What do you think the most common way to lose a urine sample might be?

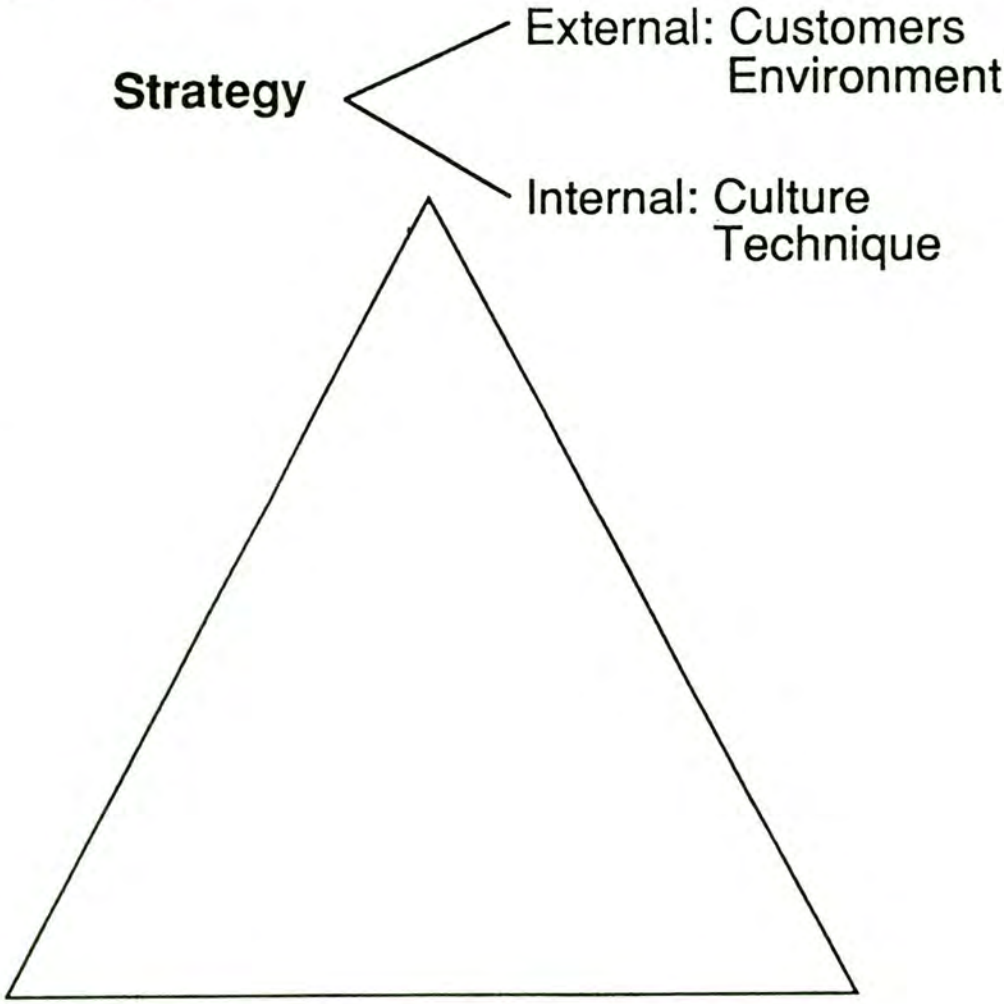
Maybe the most common way is it gets spilled. Now let's go deeper. In quality management we talk about peeling the onion, peeling the layers of cause. One layer is we spill it. Let's go deeper. How do we spill it? What are different ways that we could spill a urine sample so that this little girl ends up getting antibiotics that she does not need? An improper container. The container has a top and the top is lose because we bought the tops from one company and we bought the container from another company and that top doesn't fit that container. That's one possibility. Any other ways we could spill a urine sample? The rack is broken. We put them in a rack but there's a hole in the rack and it falls out and spills. You can begin to think about many ways we could lose a urine sample by spilling it. In the bead game, we could see where the red beads come from. In the urine game, we can't. But we can think about it. Do we already know? That is, is there in this system already a department or a person who knows exactly how the urines get lost? Maybe not. Because you remember when I asked all the people what they thought, they already knew how the urine samples get lost. It was always the other department. So

these are a funny group of bead workers. They are bead workers who don't want to lose the urine. They know they get lost but these bead workers don't know how. Could they find out? I suppose so. How could they find out? Well, I guess we'd have to give them some help. The first thing we might have to do would be to decide that we should find out. The second thing might be that we should collect very careful information about the loss of urine samples. We really want to know when they get lost. That means, we would have to be careful not to frighten people. We would want to help them to tell us when something goes wrong because if we don't know when it goes wrong, we can't investigate the cause. If they are frightened of us leaders, if they expect that if they report the lost urine or say it happened in their own department, that they'll be reprimanded or penalized. Then, instead of showing us the defect, they will just blame another department.

Now, this is the way I think about the problem. It is the best definition I have of total quality management. If we want the beads not to be red, if we want the urine samples not to be lost, if we want the process to improve continuously, then leaders must focus on three jobs (see Figure 3). One job is strategy. If we really want improvement, we must intend it. We must define the improvements needed. We must schedule it. We must make improvement important and most of all, we must make sure that the improvements are oriented toward the needs of the people we serve. We have to know what improvement would be from their point of view. Our strategy must be an improvement strategy, not a defensive strategy, not a strategy organized towards revenue only or towards the preservation of a particular power base. We need a strategy organized around a central notion - getting better.

Second, there are techniques. In the case of urine samples, we must be able to discover the cause of lost samples. We might even want to be able to conduct some experiments on better ways to manage these samples. And we need measurement systems. If we don't know when the urine is lost, if we don't have a measurement system in place, then we'll remain blind to the possibility of getting better.

Figure 3: TQM



Culture

- Leadership
- Learning
- Teams
- Reward
- Fear

Technique

- Quality Improvement
- Quality Control
- Quality Planning
- Listening to customers
- Listening to process

The third concept is culture. Even if we intend improvement as the bead worker and the bead boss did, even if we have techniques available to us, nothing happens unless the culture supports the continuous improvement of process. Let me quickly mention some of the aspects of culture that are necessary for improvement to occur. By culture I mean the behavior, priorities, example, and attitude of leaders. Quality management is more than anything about leadership. If the leader mobilizes his or her energies in a defensive way to justify the current system, to defend history, to explain why a defect is inevitable, if the leader is primarily organized towards selling the existing performance level, then improvement will not happen. The goal of leadership in a culture of improvement is to declare, defend and promote the need to get better.

Secondly, how is improvement to occur? The old way, which is the prevailing method as in the bead game, is to ask the workers to be better. To go to the worker and say, "Try harder. Don't make people wait in radiology. Bead worker, don't make red beads. Doctor, don't kill patients. Nurse, don't make pharmacy errors". The old approach focuses primarily on the worker as the source of defect. Quality management does not focus on the worker, it focuses on the process. Every process is perfectly designed to get exactly the results it gets. Change the workers and you'll get approximately the results you've always gotten. The issue is to redesign the work, not to exhort the worker to work more effectively.

Thirdly, how do we use the data. If in a management system, the leader believes that the central issue has to do with motivating workers, then the use of data is largely for the purpose of motivation. Think about the bead game. What did I, the boss, do with the data? I fed it back to the workers and showed them exactly when they were doing poorly and when they were doing well. I was using data as an instrument of exhortation. It could not work in the bead game because every process is perfectly designed to get exactly the results it gets. The aim is to change the process but to change it based on data. Furthermore, data can help us conduct experiments. We can use measurement systems to guide investigations. If we think we know about an innovation that could be successful, we can try it and see if the innovation improves the organization's performance.

The next principle has to do with the source of knowledge about the system as a whole. In some prevailing systems, the knowledge comes from the boss. The boss is perceived as the problem solver, the owner of knowledge, the teacher of the way. In quality management, we take a different point of view.

We see the boss as also part of the system, often without the knowledge to understand the way the defects occur and where the opportunities lie. The bead workers came up to me after the demonstration and said, "Why didn't you let us help? How could you think you knew the only way to do it? We had ideas." Use these ideas. In the quality management mode, everyone has knowledge, not just the boss.

Now, when the improvements are sought, one classical approach is to try and improve individual departments. Essentially we build our organization in better fragments. In quality management, improvement in the individual performance of units is not as important as the ability of units to work together toward a shared aim. In fact, if too much energy is spent perfecting functions, the process deteriorates. Why is that? Because if each function focus only on itself - the nurses focus on nursing, the doctors focus on doctoring, the administrators focus on administration - they will seek to gain resources and energy and control locally so they don't have to run the risk that the other functions will let them down. By not stressing interdependency, we allow interdependency to whither and create a group of very proud, highly motivated parts, instead of a functioning whole. Quality management asks what am I part of instead of which part am I.

There is one other point. When the system is disabled, when the red bead rate remains the same or the rate of lost urine samples remains the same, we tend to blame the customer. When people say they don't want to wait so long, we say they're unrealistic. Then people say they want to live longer, we say I'm sorry, there are complications, we can't avoid them. We tend to justify the current performance of the system because we are helpless, just like the bead workers begin to say that red beads are good. In quality management, we are attempting to introduce a different set of attitudes towards the need - which is to welcome the need, to listen to it, to ask about it. In quality management we ask people who depend on us what more we could do for them. Not because we can meet every need but because if we don't understand those needs, we can't design our process improvement efforts in the most effective way.

If you begin to imagine an organization focused on improvement, gathering data, working on processes, training the workers to find out about causes, encouraging experimentation, you begin to imagine a place investing resources in improvement. In classical systems, we don't see any resources budgeted for improvement. With quality management the investment comes from leadership's interest in improvement as a strategy and it turns out that the most important investment is not money but time. It is the willingness to set aside

time for improvement that turns out to be the biggest issue for most organizations. As a nurse said to me once, in quality management everybody has two jobs. They have their job and then they have the job of helping to make their job better. For most organization, this involves changes of attitude and substantial reorganization of the energies of leaders and of the budgets of the organizations.

I would now like to open the floor to questions. We're particularly interested in special circumstances in the Middle East that would require modifications in what we've been explaining.

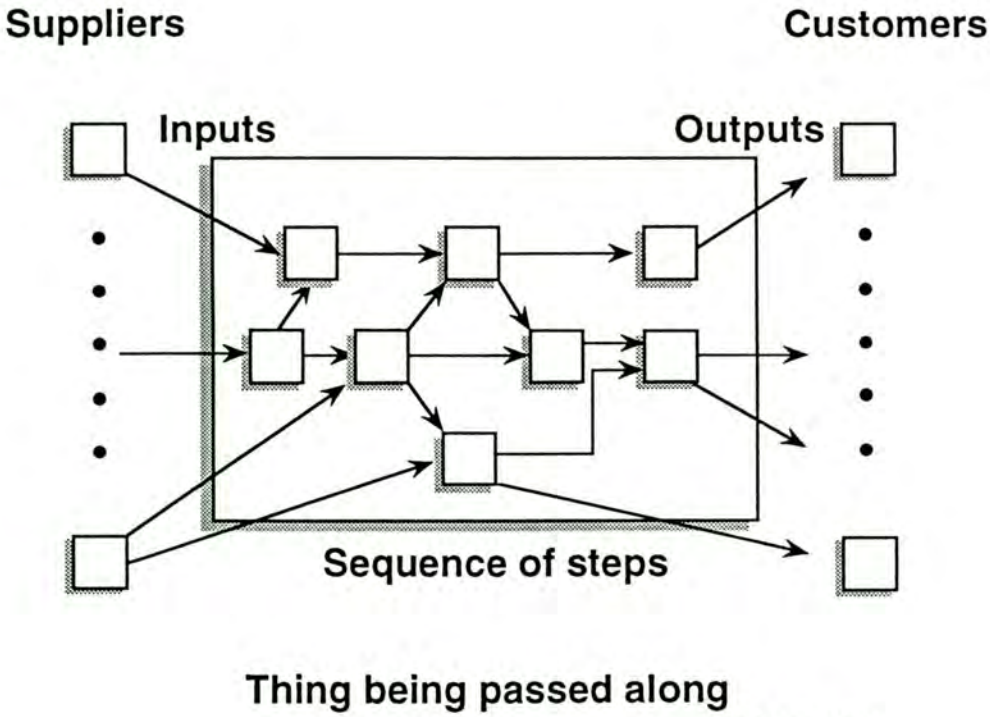
Question: Prof. Berwick explained that leaders have three jobs: strategy, technique and culture. Under technique, you've used the term, listening to processes. Could you explain this. My second question is about the notion of quality. To whom does the concept "internal customers" refer?

Donald Berwick: There were two questions here. The first one is what is meant by the concept of listening to process. That is a piece of jargon from quality management. One of the technical aspects of improving a process or a system is to be able to conduct measurements within that system to understand its characteristic. For example, in the case of lost urine samples, if we were to wish to reduce the rate at which those samples are lost, one of the important steps would be to be able to sketch the process that manages the transport, collection, analysis, and reporting of urine specimens. If I ask you to take a piece of paper out and draw for me in some detail exactly how urine specimens are managed at your facility, my guess is that the more senior you are, the less knowledge you will have about how this really works. Organizations who really intend to improve, must have the ability to really know how their work is done, how it is carried out, what are its key characteristics, what are the waiting times involved, how faithful is the process at every step. That's what is meant by listening to process. It is the gaining of the ability to understand the process at work. It sounds so simple but it is actually very, very difficult.

Paul Plsek: The second question was about the concept of internal customers. We said that process was a sequence of steps. In Figure 4, each of those boxes is a step in the process. When the physician writes an order for medication and hands it to someone to take to the pharmacy, that's another step in the process. If you look at the top of the Figure, you see that we normally think of customer and supplier relationships as being external to the organization. The patient, the user, the family, the community at large is the customer or the

beneficiary of our services. But notice that when we combine process thinking with customer thinking, we begin to realize that every handoff in the process is another customer-supplier relationship. This is a very revolutionary concept in many organizations.

Figure 4: Elements of a Process



When the physician writes the order for the medication, at that moment, the physician's customer is the pharmacist. If the pharmacist can't read the handwriting or if the order is not clear as to the medication, the strength and dosage, then the process is going to break down. The pharmacist then takes that order and puts the medication in a bag. Who is the customer of the pharmacist in this case? The nurse up on the floor. If each employee would simply stop and think about how to hand off his task - for the physician to stop and say how can I make the pharmacist's job easier, for the pharmacist to stop and say how can I make the nurse's job easier - you see how many problems would be prevented. So this notion of customer not only applies to the external customer but it also applies to the internal user or customer.

Question: The material presented so far seems to me to be rather scientific. Is there not another side to TQM? I'm talking about ethical values. They were touched on in the form of incentives.

Donald Berwick: Paul and I this morning have been stressing the scientific aspect of quality management. It focuses on process. It tries to gather data. It tries to understand causation and to support activities to intervene in causal systems within production. The side of quality management that is less quantitative is exceedingly important. It is in the cultural dimension which we spoke about.

You mentioned ethics. Now, quality management itself doesn't have any particular ethical purpose. I suppose you could rob a bank well using quality management: You could collect information on the process of bank robbery and graph it and even have a team. Quality management is more about means than about aims but there is an aim and it is the aim of meeting needs. As a physician, I'm interested in quality management not for the purpose of preserving organizations. What motivates me is that I have an opportunity in my life to see people who have pain, who are at risk, who aren't meeting their full capacity and I believe I'm in a profession capable of relieving pain and prolonging life and increasing the use of talent in the world and it is simply what I wish to do. That aim does not come from quality management. It comes from outside but it does help me find my customer. It helps me understand whom I wish to help and how I wish to help them.

The second dimension of non-scientific thinking, if you want to call it that, is the sense of work, the relationship between people and their work. I have been in organizations that have never heard of quality management and are like the setting in the bead game. The workers feel angry and are jealous of each other. They feel powerless. They can't participate in the improvement of something they care about, their work, and what they do is they begin to disconnect from their work. They become the kind of worker that we don't like. But the theory here is that we've made them that way. If we can have a system capable of helping people get involved in improving their work, then we can begin to reconnect people to work as part of the life experience, as something they really care about. Go visit a quality improvement team sometime. Listen to Rashad Massoud today as he tells you about his work with teams on the West Bank. You'll hear energy, enthusiasm, interest, a positive attitude that simply isn't there when you are not enlisting people in improvement of their own work.

Paul Plsek: While the terminology we've been using creates a scientific base, you don't have to have a degree in engineering or in medicine to use some of these methods. I can tell you a wonderful story which took place in the United States. The CEO of a hospital tells the story of wanting to talk to some of the people in her organization after they had been working for a year or so trying to integrate the quality management idea and culture within their organization. She went down to the laundry room where she met an employee who had an entry level job, probably one of the lowest paying jobs in the hospital, washing the linens. She was a little bit embarrassed as she walked in because she realized that she may be putting this person on the spot. What she found was that this person had been involved in doing some quality management and, in fact, was quite willing to talk about it. He took her back behind one of the laundry machines where he had some scraps of paper on which he had done some process thinking. He had written down the various steps in the process of trying to get the linens from the floor, down to the laundry and back up to the floor. He had misspelled many of the words but it made sense to him. He knew the process. He had actually taken some time to walk up to the nursing floor and talk to some of the nurses about linen delivery and what they needed - the idea of customer thinking. He had some data. He had made marks on a piece of paper tracking where the laundry was coming from, how many linens came from this floor and from that floor. Were there more linens that came on Monday or Tuesday or Wednesday? He was beginning to understand the production process of laundry and he had some ideas for improving the process.

Question: What is the relationship between MBO, management by objectives, and quality management?

Donald Berwick: MBO, as originally described in the work of Peter Drucker, is perfectly consistent with quality management. But sometimes by MBO (Management By Objectives) we mean: get me to the objective. Here's the result wanted, deliver it. I don't care how you get it but you are responsible. How will the party held responsible deliver that result? In the bead game, they're helpless. In MBO, if naively done, all the manager takes responsibility for is the accountability, the objective. In quality management, we say the leader is responsible for setting in place the means through which the process can be redesigned and that's the key difference. It is a difference between the bead boss who just demands new results and the bead boss who takes responsibility for introducing a system that can change the work.

Paul Plsek: These principles can and must be we adapted to, for example, the Middle Eastern culture. What we are here to do is to provide you with some information. You will have to adapt these things to fit the way you do things within your organizations. We hope that the principles of process, customer variation, and those sorts of things remain as a constant. The way you use those principles, is your responsibility.

Session III . . . . . .

Formal Opening of Conference

Shmuel Reznikovich: Good afternoon. Mr. Haim Ramon, Minister of Health of Israel; Dr. Ali Khater, First Under Secretary of the Ministry of Health of Egypt; Dr. Abdul Aziz Haj-Ahmad, Director General of the Palestine Health Council; distinguished guests, ladies and gentlemen. On behalf of the Steering Committee, I am pleased and honored to welcome you all to Jerusalem and to formally open the Middle East Conference on the Implementation of Total Quality Management Systems in Medical Centers. This conference is being held under the auspices of the Institute for Social and Economic Policy in the Middle East, at the John F. Kennedy School of Government, Harvard University and its Alumni Association. The Institute sponsors educational programs, field projects and research activities in order to develop managers of health and welfare organizations in the Middle East and to encourage them to work toward common goals. This conference is the product of many months of mutual effort and cooperation by a number of organizations without whose professional and financial assistance all this would not have been possible. A very special thanks for its professional help goes to the American Jewish Joint Distribution Committee who supported the organizational and academic committees all along the way. The JDC-Brookdale Institute provided the site for our meetings and its staff provided the technical assistance needed to organize the conference. Thank you all, especially Mrs. Meira Aboulafia without whom none of this would have been possible. Thanks also go to JDC-ELKA for its professional assistance, the United States Agency for International Development, the International Development Research Center of Canada, Israel's Ministry of Health, the Kupat Holim Sick Fund in Israel, Digital Equipment, and Electric Medical Systems. And, finally, I want to thank all of the members of the Steering Committee, the Organizational Committee and the Academic Committee, all of whom took time out from busy schedules to give this conference its final shape. The willingness of a broad spectrum of health care professionals from Gaza, the West Bank and Israel to serve on these committees was a major factor in making this a real Middle East conference.

The Alumni Association was created in January 1993 and this is the first event sponsored by its Project Development Committee. Middle Eastern countries, like countries throughout the world, are grappling with the difficulties of how to control health care costs while providing quality health care. I believe that human resources are the most important components in a health care system

and investment in the development of human resources can be a way of overcoming problems in hospitals in our region as it has wherever TQM has been introduced. I wish us all a fruitful and enjoyable meeting. Thank you. Now I have the pleasure of inviting Professor Leonard Hausman, the Director of the Institute for Social and Economic Policy in the Middle East, to say a few words.

Greetings

Leonard Hausman: Thank you very much. I'm very pleased to be here this morning. I was here in June with my colleague, Annie Kurasik, Executive Director of the Institute, and Dr. Bishara Bamba, the Associate Director of the Institute. At that time, we released our report, the first quasi-agreement among Jordanians, Palestinians and Israelis on the economics of a new era in the Middle East. It was written by a large group; it wasn't the work of any one or two people. The opening line of the preface, written by Mr. Joseph Califano, the Chairman of the Board of the Institute since its founding ten years ago, said that people in the Middle East would not be ready for peace when it was agreed to, that policy planning for the new era was far behind schedule. I think, unfortunately, that Mr. Califano's words were all too accurate. People in general are not ready for what was agreed to on September 13th by Chairman Arafat and Prime Minister Rabin in Washington. There is an exception and that is the Middle East Educational Fellowship Alumni Society which organized this conference. It may be interesting for a moment to recall its origins.

About six years ago, Mr. Califano had the idea that there ought to be an organization composed of managers of health and social service organizations from countries, old and new, in the Middle East that would form a network prepared to work on projects of common interest. After Mr. Califano had that idea, his Eminence John Cardinal O'Connor, the Archbishop of the Catholic Church for the New York area, had the idea that this program ought to be financed with funds from the Catholic Church, and he launched the financing of this project.

And now their idea and their vision are bearing fruit. What you see before you is an organization that was prepared to go on September 13th. The Institute is very proud that its first program, the Fellowship Program, has brought people - Egyptian, Israeli, Jordanian, Lebanese and Palestinian - together. I hope we will have people coming from Syria and Yemen in the near future and the

Emirates as well. The Institute at Harvard is very proud that we had people who foresaw six years ago September 13th, 1993.

Miss Karasik, the Executive Director of the Institute, was the first director of the Fellowship Program and also helped in the founding of the Alumni Association. Miss Korasik, Dr. Bamba and I, and the Board of the Institute, want to thank our Fellows and all the other organizations that came together to bring you this program. We are very happy that it is an area, the area of health management, where you can work productively together. We are also very happy that our colleague, Prof. Berwick from Harvard, along with Mr. Plsek, is here to present to you the substantive material of this conference.

I want to just say a few words about the Institute and its program and the work of the Fellows in the future. The conclusion of this report meant the conclusion of the first part of our agenda. We have now embarked on a series of policy planning projects to assist with the detailed work of starting a new era, at least on the economic side, in the Middle East. These projects range from water to environment, to trade, to refugees, to the financing of municipal services in Jerusalem five or six years down the road.

There is one project that I want to mention that I think has particular interest to those of you who are here today. It is a project which the World Health Organization decided about two years ago to finance. A group of people at Harvard will assist if the parties here - Palestinians, Israeli, Jordanian - would like, in designing and in establishing the new Palestinian health system, as well as in providing for regional cooperation in the area of health. Alumni of this fellowship program will, of course, be involved.

We are very happy that the vision of our colleagues at Harvard is becoming a reality and we are very happy to greet you here at this conference. In particular, we are happy on behalf of our board and our colleagues to greet you, your excellency, Dr. Khater from Egypt, Dr. Abdul Aziz, head of the Palestine Health Council, and his excellency, Minister Haim Ramon. Thank you and we wish that you will have a very productive conference.

Shmuel Reznikovich: Thank you very much Prof. Hausman. It is a great pleasure for me to invite his excellency, Dr. Ali Khater, First Under Secretary of Health of Egypt.

(Translated from Arabic)

Ali Khater: In the name of God, the Merciful and the Compassionate, may peace and God's Blessings be with you. His Excellency, Minister of Health Mr. Haim Ramon; Dr. Abdul Aziz Haj-Ahmad, Director General of the Palestine Health Council; Dr. Leonard Hausman, Director of the Institute for Social and Economic Policy in the Middle East; Dr. Sameh El Saharty, Chairman of the ISEPME Alumni Association; Mr. Shmuel Reznikovich, head of the Academic Committee of the Conference; ladies and gentlemen, conference participants.

I thank you for this generous invitation; it gives me great pleasure to be a representative of the Arab Republic of Egypt's Ministry of Health. I am accompanied to this scientific Conference on the Implementation of Total Quality in Medical Centers in the Middle East — being held under the auspices of the ISEPME and its Alumni Association — by colleagues from Egypt, whom I shall be honored to introduce to you.

It is impossible to talk about the concept of total quality in medical centers without taking into account currently existing health structures, within which initiatives will be implemented. Therefore, I would like first to provide you with a very brief picture of the health services provided in the Arab Republic of Egypt.

The Ministry of Health is responsible for most health service provision and is constitutionally responsible for citizens' health care. This includes primary health care, preventive medicine, and curative care. Other medical bodies include the Health Insurance Organization, the Teaching Organization, Curative Organizations and University Hospitals. In addition, there are hospitals affiliated with different ministries, and medical care services in the private and joint-venture sectors.

The Egyptian Ministry of Health has an integrative network of health centers that includes 250 general hospitals and about 4000 rural health units. The Health Insurance Organization provides services to nearly 5 million government, public and private sector employees. These services are currently being provided through twenty-seven hospitals, some one hundred and twenty general clinics, and hundreds of other clinics. Great progress has been achieved in health insurance coverage during the past two years: in this time, 10 million school students have been insured; hopefully, insurance will be provided within the next year for an additional two or three million out of the

remaining 10 million students in primary and secondary schools throughout the country.

Curative care organizations provide reasonably priced services to all citizens through hospitals in various districts. In addition, 14 University Hospitals, from which four thousand new physicians graduate each year, provide training for medical students.

Health personnel in Egypt include some 107,000 physicians, a large number of nurses and technicians, and medical service support employees.

Official statistics for 1993 demonstrate the results achieved by the Republic's health services:
1) A reduction in the general mortality rate to 7.4 per thousand;
2) A reduction of the infant mortality rate to 33 per 1,000;
3) A reduction of maternal mortality rates from 10 to 4 per 4,000;
4) A reduction of the birth rate to 29 per 1,000.

All the above information makes it apparent that, during the past decades, the Egyptian Ministry of Health has made great efforts in order to construct this huge network of health services and to provide it with the necessary human resources and funding. During the last few years the ministry has started to concentrate on performance in service provision, by applying a number of economic, scientific, and administrative criteria, including the total quality concept.

The concept of total quality has been introduced in many production and services sectors during the last few years. Following the development of health administration structures, the Ministry of Health adopted this concept in a number of national projects. Let me briefly mention, for example, the program for Quality Assurance in the Cost Recovery for Health Project; the continuous Quality Improvement Program in the Family Planning Project; and the Total Quality Management Program in the Child Survival Project. All these are aimed at setting standards for health centers and service performance such that a higher level of services can be achieved and one can be sure that recipients of these services are satisfied with them.

While engaged in implementing the concept of quality, we have to take into account that this implementation should meet the needs and circumstances of our society, which are undoubtedly different from those of other societies. Obviously, we in Egypt need not emphasize our genuine interest in quality; if

the pyramids, the temples, and the age-old secrets of mummifying do not signify quality, what does?

Finally, I would like to thank all the organizers of this conference and especially the host country, the State of Israel. I wish you every success in this conference and in developing a scientific approach to the implementation of total quality structures, for the sake of the health and well-being of all the peoples of the Middle East. In conclusion, I would like to mention the saying of the Prophet Mohammed, may peace and prayer be with him: "God would like it that if anyone does a job, he excels in it." Here he refers to the quality of performance. God Almighty said: "You shall be rewarded only for what you have done." This means that the product of work depends basically upon performance. Thank you, and may peace and God's mercy be with you.

Shmuel Reznikovich: Thank you very much Dr. Ali Khater. It is a pleasure for me to invite his excellency, Dr. Abdul Aziz Haj-Ahmad, Director General of the Palestine Health Council.

(Translated from Arabic)
Abdul Aziz Haj-Ahmad: In the name of God, the merciful and the compassionate: Mr. Haim Ramon, Minister of Health; Dr. Leonard Hausman, Director of the Institute for Social and Economic Policy in the Middle East; Dr. Sameh El Saharty, Chairman of the Alumni Association; Chairman of the Conference's Academic Committee; dear participants, ladies and gentlemen: It is a great pleasure for me to deliver this speech on behalf of the Palestinian Health Council in the State of Palestine. I wish you all a fruitful stay and pray to God Almighty that this conference successfully achieves its goals.

Dear brothers and sisters: In 1969, in accordance with a decision adopted by its national council, the PLO authorized the Palestinian Red Crescent to provide the Palestinian people, wherever they might be, with health and social services. In 1992, after the peace process began in Madrid, the Red Crescent suggested that, in order to deal with expected developments and new responsibilities, a Palestinian Health council be created, composed of leading personalities in the field of health from both within and without the territories. This was envisaged as a nucleus for the future Palestinian Health Authority. This authority is to supervise the implementation of a national health program and provide Palestinian citizens with official health services which have significantly deteriorated during the occupation. The Authority should also provide for health maintenance in cooperation with government and non-government organizations, both local and foreign, as with the private sector.

The suggestion was approved by Comrade Yasser Arafat, President of the State of Palestine. The Health Council prepared its program, identified urgent projects, and set the goals to be achieved after the handing over of health administration by the civil administration authorities, in accordance with the Declaration of Principles signed on September 13, 1993.

The goals of the provisional health program can be summed up as follows:
1) Assuring continued support and development of the existing health services;
2) Developing a mechanism and structures capable of administering these services ably and efficiently;
3) Providing the Palestinian people with basic health necessities and improving the level of these services;
4) Creating an integrated national health plan for the next five years and determining how it should be implemented.

Dear sisters and brothers, Palestinian participation in this conference will provide us with the opportunity to become familiar with the principles of total quality management and to benefit from the experience of American, European, and other professionals. This conference also gives health professionals from this part of the world the opportunity to meet and exchange views on a professional and human basis. Total quality management aims to achieve continuous improvements in the quality of services offered. It is also oriented toward cost reduction and enhances patients' faith in the health services. Its implementation requires the participation of all management employees, and that of all other health service personnel.

Total quality management seeks to determine and fulfill the needs of the sick, relying on self-correction rather than concentrating upon supervision or superficial structures. We in Palestine shall work on implementing these principles in our health and medical centers after reorganization: this will require moving from a central management structure to one based on decentralized decisionmaking. I hope that I will be able to share the results of our implementation of total quality management principles with you at the next conference.

I would like to take this opportunity to express my thanks to all those who took part in preparing and organizing this conference, and especially the Institute for Social and Economic Policy in the Middle East at Harvard University, the ISEPME Alumni Association, the United States Agency for International Development, the conference preparatory committee, and all the

institutions that supported and sponsored this conference. May peace and God's blessing be with you.

Shmuel Reznikovich: Thank you. It is a great pleasure for me to invite his Excellency, Mr. Haim Ramon, the Minister of Health of Israel.

(Translated from Hebrew)
Haim Ramon: Dr. Ali Khater, First Under Secretary of Health, Ministry of Health, Egypt; Dr. Abdul Aziz Haj-Ahmad, Director General, Palestine Health Council; honored guests, ladies and gentlemen.

I am delighted that this conference is taking place. I am certain that its present format would have been impossible if not for the political developments that culminated in September 1993, when the Government of Israel and the PLO signed an agreement of principles and formally recognized one another. This historic agreement between the Government of Israel and the PLO committed both sides to working towards coexistence and peace and the elimination of animosity, war, terror and bloodshed.

I am hopeful. As you are no doubt aware, the Israelis and the Palestinians have not yet resolved all of their differences. For a century, people have tried to solve these problems through violence. Today we realize that these complicated and sensitive issues can be resolved through discussions at the negotiating table. And we are aware that the differences facing us now are, if anything, less problematic than those we will confront in the future. At the same time, we can institute a joint policy in certain important areas — first and foremost health care — as we are doing here at this conference.

The Government of Israel has long wanted to place Palestinian health care in the hands of the Palestinian authorities. In a speech I delivered to the World Health Organization in early May of 1993, I proposed that the Palestinians assume immediate and unconditional authority over Palestinian health care. I had constantly heard that the health care we provided was inadequate. I said to the Palestinians: Please take responsibility for health care, and do a good job. But they refused, apparently because our treatment had been better than they had claimed.

What has happened in Judea and Samaria, the West Bank, and in the Gaza Strip since 1967? Let's talk about infant mortality. In 1967, 130 to 140 of every 1,000 infants died. Today about 30 do. This is how the situation has changed in the intervening years. Could this figure be improved? Of course,

but we must remember the original situation. Diseases that were common a decade ago in both the West Bank and the Gaza Strip — such as polio, pertussis and measles — have been wiped out. Ninety-five percent of babies in the West Bank and the Gaza Strip are inoculated - the same percentage as in Israel. This is one of the highest levels in the world, and one any modern country would be proud of.

We can always improve health care, but I want to say to my Palestinian friends, that defining Palestinian health care as "abominable" is a relic of the past. This attitude characterized speeches given two or three years ago, which were relevant to politics but not to health. I propose that those of us sitting here today discuss health rather than politics, and deal with the real health needs of the Jewish and Palestinian populations.

Although I do not want to sing the praises of a specific hospital, I want you to know that every year almost 100 Palestinian infants from the Gaza Strip undergo open-heart surgery in Israeli hospitals. During the first stage, I do not think that the Palestinian system (at least in the Gaza Strip) is equipped to deal with this type of treatment. We propose that Israeli hospitals continue to provide it, conditional upon your approval, not ours. If you so desire, we will be delighted to oblige. If you decide that you want to assume responsibility for tertiary care, you will. I think that, at least initially, it would be best if the Palestinian residents of the Gaza Strip maintain the present arrangement. We will, of course, honor any decisions you make.

About 7,000 Gazans are hospitalized in Israel. It will not be easy for the Gazan medical establishment to absorb them soon. I believe that these 7,000 individuals would benefit from remaining in Israeli hospitals. Again, this depends on you: We do not want to force ourselves on you. You will run the hospitals; you will be responsible for health care; the quality of health care will be determined by your work. Even now Palestinians provide almost all the health services in the West Bank and Gaza Strip. The civilian health administration employs ten or fifteen Israelis. They can easily be replaced. These discussions are amicable and problem-free. I am optimistic that you will run the health system in your way, in accordance with your own ideas. I hope that you will achieve better results than we have. I will be delighted to see this happen.

These subjects definitely characterize our new reality. And the new reality involves not only the Palestinians, but the entire Arab world. In health care, for instance, we and the Egyptians did not agree to cooperate in health care,

despite the fact that the two nations are at peace, are close geographically, and could each help one another.

I hope that your visit here, Deputy Minister, will be the first step in Egyptian-Israeli cooperation in health affairs. I would like to see the entire region participating in an umbrella solution. Although we have differences of opinion and there is a long way to go, I am convinced that we will achieve comprehensive peace in the Middle East. I believe that the entire Middle East can take part in a health system that will benefit all the states in the region. It should employ TQM, but most important, it should be implemented!

I would like to say a few words about what is happening in Israel. The 1993-94 health system is very ambitious. In effect, we want to simultaneously implement three radical reforms. While this reflects a certain amount of conceit on the part of both the Health Minister and the Health Ministry, we are persevering in this endeavor.

Of course, the central reform is the introduction of the National Health Insurance Law. This legislation changes the status quo. At present, the State has no obligation to treat a citizen and the citizen has no obligation to acquire health insurance. We have been fortunate that, thanks to tradition, about 95% of Israel's residents are insured. This number is falling each year by at least a percent or a percent and a half. The uninsured are most often members of the weaker sectors of the population. The fact that almost 80,000 children in Israel will have no health insurance in 1994, and pay for this with their health, does not speak well of Israel and of the Israeli health system. This must be changed. We must employ the system used primarily in Western Europe: A certain sum is deducted from the income of each citizen, and the capital is divided among the health funds according to a formula which reflects the health needs of each citizen.

The second area of concern, hospitals, is more relevant to our discussion here today. Most of Israel's hospitals are government-run. We are now making hospitals more autonomous. We made progress in this area in 1993, when we transferred almost all hospitals to independent units. We want to make some of these units autonomous, with legal independence and significantly greater administrative freedom. In effect, the Health Ministry will be far less involved in day-to-day hospital administration. The Health Minister will not be responsible for deciding who will load the washing machines in the Hadera hospital. I intentionally chose this example, because this hospital does not exist.

The third and last area of concern is the reform of the Health Ministry. The Ministry should set policy, establish quality control, and determine administrative chains of command, but not provide ongoing services. Let me describe this in figurative terms. All in all, the Ministry has some 30,000 employees. When I took office, the Health Ministry had a room filled with files. I asked about these files and was informed they were the personal files of all hospital employees. That means that the personal file of an employee in the Safed hospital sits in Jerusalem. My goal was to empty the room, and I have been successful: About two-thirds of the room is now empty.

We want to shrink the size of the Health Ministry, and have independent agencies provide services, under Ministry supervision. This objective requires a great deal of organizational work and we must employ the most advanced methods. But believe me, we will cope with the administrative problems — more challenging problems emerge every time we want to implement a change. This is true not only in international relations; there are also problems when we make any radical change. Some individuals are opposed to any change.

We effect change when it is clear to one and all that the alternative is worse. I am convinced that this is how we reached an agreement with the Palestinians. This will happen with the Israeli health system as well. There are risks in what we do, but there are also possibilities. And most important, if we do not take the necessary steps, health services in Israel will collapse. Therefore, we have moved in this direction and are fully committed to the challenge.

Again, I would like to thank all those who worked so hard to organize this important conference. This area is important in itself, and also for what it symbolizes vis-à-vis the relationship between Israel and the Palestinians, and Israel and her neighbors. Thank you.

Shmuel Reznikovich: Thank you very much. Coming back to TQM, I would like to invite Prof. Berwick to speak about TQM in Medical Centers - Opportunities and Risks.

TQM in Medical Centers - Opportunities and Risks

Donald Berwick: In this presentation I will be speaking mostly about the American context. It is my experience in the United States that informs my understanding of issues in health care and the potential of the proper management of quality and the risks as we try to move health care systems

around the world toward more effective performance and a greater ability to meet social needs.

In America, the sense of urgency for change in health care is quite visible. Our costs are too high, much higher than they apparently need to be by comparison with other developed nations. The quality of our care, although technically good, is showing evidence of deficiency not just in cost, but in the health status of our public. The United States does not, by any means, take full advantage today of the knowledge we have about how to prevent disease. Our infant mortality rate is 21st in the world, not first. The degree of variability in the care given from one American medical facility to another is extremely high and the public is not confident that it can rely on this system to be there when they need it. People in the United States feel that they can rely on their physician but not necessarily on the system.

We've also observed in the United States over the thirty years, an ongoing sense of helplessness. Our costs have risen out of control without any evident increase in the health status or satisfaction of the public served by health care. We have responsible and dedicated management. We have intelligent and insightful physicians. We have professional and committed nursing. We have all the elements we need to produce a system of excellence, continuously improving and yet we do not observe that effect.

This frustration has turned the attention of many leaders, many of whom you'll be hearing from at this conference, to that underlying, more important question that I addressed this morning - Where does improvement come from if needed? This is two questions really. Is improvement needed? And if yes, where will it come from? The premise that we're working with in this conference is that the ability to improve complex, interdependent systems of care, even if that need for improvement is urgent, is not necessarily resident or latent in those systems without proper focus of management and leadership on a proper collection of methods likely to induce change.

We saw in this morning's presentations that systems or processes, whether simple ones such as the one exemplified by the bead game demonstration, or complex ones, like a health care system seeking to control tuberculosis or depression or rehabilitation, have characteristic levels of performance. This morning I introduced an aphorism from the field of quality management: Every system is perfectly designed to achieve exactly the results it achieves. If we wish new levels of achievement - lower cost, higher function, better

health, higher quality - we will not get very far without making changes in the systems we use to do our work.

One of the scholars in this field, Tom Nolan, has suggested that we think of change in two categories. He calls them first order change and second order change. First order change is the adjustments we make in our daily life or our daily work whose main intent is to preserve stability. In English we say not rocking the boat, holding the course, going straight. As human beings, we are familiar with efforts to use change to achieve stability. When we sail a boat we make adjustments in the tiller so the boat will go straight. We are familiar in relationships with each other in constantly making adjustments so that the level of tension or the issue between us remains under control. When we have a fight with a spouse or a significant other, we make up so that we get back to the general level of performance we have always been used to. In the Middle East, as your conflicts continue to erode your resources and drain your spirit, you are familiar with constant tension and the adjustments made to preserve the tension at that balance point where it goes not too far one way and not too far the other. First order change is change designed to preserve historic levels of performance.

Tom Nolan has observed that a tremendous amount of energy is poured into our health care and other systems to preserve the status quo. Now an effort to preserve performance at a customary or historic level can be helpful. But what if the historic level of performance, the infant mortality rate we live with, the disability rates in a society, the prevalent rates of smoking or risks of injury, what if the general characteristics of the system that we're in, in America - the costs of care, the outcomes of care, the success of prevention - what if the general characteristics of the system we're in are simply not capable of achieving a level of performance we aspire to. Then can we ever hope to achieve that new level of performance by only making adjustments that preserve the historic system? The answer must be no. The answer is no because every system is perfectly designed to achieve approximately the results it gets.

And so Nolan introduces a second kind of change: He calls it second order change. That's change of a different type. That's the change we feel in our lives and in our work when dissatisfied sufficiently with the current level of performance, dissatisfied sufficiently with the ability of the current system to meet our needs, dissatisfied with the gap between what we wish to accomplish and what we find ourselves able to accomplish, we are willing to engage in change not within a system but change of the system itself. It is the process of

changing the system instead of changing within the system that holds the seed of real success when our intent is a new level of performance. What we seek in this kind of change is not historic levels of performance but a breakthrough to new levels.

This is what the American system of care needs. We need breakthroughs. We need breakthroughs in the way we use resources so that our costs can go down, not up. We need breakthroughs in the way we deal with preventive practices so our infant mortality rates can fall, so the burden of smoking and heart disease can fall, so that the ability of people to live their lives in full function can go up. We cannot achieve what we ought to in the current system. Second order change, changes of system, is what we seek.

But notice the epidemiology of first and second order change. I told you earlier, first order change is the rule and second order the exception. Why is that? Why is it when we full well know that within the current system we will continue only to achieve the level of performance we have, we continue nonetheless to engage in efforts to preserve the current system. Why? Well the answer is long and complicated. It is problematic to engage in second order change. Suppose I told you that your spouse were to come to you tomorrow and instead of saying after an argument, "Honey, let's make up", your spouse says to you, "Honey, in our current relationship I don't think we can achieve the level of satisfaction with each other that we're after. We need to engage in some fundamentally new ways of dealing with each other". How does that make you feel compared to making up after an argument? The proposition to change the basic relationship is a far more difficult proposal, far more anxiety provoking. What's going on now between the Israeli people and the Palestinian people is an effort to struggle with the possibility of changing the system itself, and in some fundamental sense, it is much more uncomfortable to do that than to revert to the preservation of the historic level of tension and struggle.

First order change is comfortable compared to second order change. But second order change is absolutely necessary to achieve a system capable of achieving new performance levels. When we engage in first order efforts to preserve stability at a time when new levels of performance are needed, we end up in a system of interaction that is not just unlikely to bring us to where we want, it is destructive. Let me give you an example. In the United States the only publicly-funded care in general is care paid for by the federal government for care of the elderly. It's call Medicare. The Medicare system which treats people over 65 pays hospitals for the care of elderly people. Those hospitals must report information to Medicare in order to get paid and

so Medicare, the federal agency, accumulates enormous amounts of information. This federal agency decided some years ago that its job was to protect the quality of the system and its approach was typical, well-intentioned and, you will see, flawed. Medicare decided to publish mortality rates in American hospitals. Now they engaged in all sorts of adjustments using statistical methods and computer programs so that when one hospital was compared to another hospital, any differences could be attributed to the hospital instead of to the incoming population. One year's worth of data on mortality rates in 6,000 American hospitals was published in seven volumes, each the size, I think, of the Jerusalem telephone directory. Seven thousands pages.

However, not all 7,000 pages included the mortality data. In fact, only about 400 pages were mortality data. The other 6,600 pages were letters. Each hospital could peek at its data and write a letter to the government commenting on its mortality level and the government had to publish both the data and the letters. Four hundred pages of data, 6,600 pages of letters per year. What do you think the letters said? They offered excuses. The letters said no, no, our patients really weren't dead or our patients, despite your adjustments, were really sicker. The letters reflect what I would call playing games. Instead of inducing a national inquiry into the continuous reduction of mortality, a goal which if any were to be the goal of a health care system we might embrace first of all, this approach induced games: Yes, you did. No, I didn't. It's your fault. No, it's your fault. Back and forth, finger pointing, letter writing and an ongoing sense not of a search for improvement but of a search for self-justification, a search for apology at best, a search for debate about the data, a search for stability. The effort was to preserve historic levels and resist change.

In the United States, the prevailing approach to making the system better, I believe, is fundamentally the approach of inspection of results and debate about the results. We are still trapped in a mentality which some call reliance on inspection to achieve quality and it produces costs and games. It suppresses innovation and experimentation because risk is bad. It induces incredible competition between the organizations that ought to be working together to achieve new levels of performance. It produces tremendous misunderstanding between the manager and the work force, between the government and the organization, and among organizations. And it produces first order change only.

I do not know the circumstances of the Middle East well enough to know if this tendency toward preserving stability, toward defending the status quo, toward investment in inspection is a characteristic of the Middle Eastern health care system or approaches to quality. But if it is not, don't buy it. As you look to the continuous improvement of the health status of the people of this region, do not fall victim to the powerless, costly, degrading, insulting properties of a system depending on judgement of each other to preserve an entrenched quality. Instead, as you're doing at this conference, consider a much more sophisticated, much more searching, much more respectful set of questions about the fundamental underlying issues: How shall we together improve? What forms of action, investment, leadership should be used? What forms of understanding, knowledge and science should be applied? What forms of strategy are appropriate? What forms of approach to a system that we care about will guarantee the improvement of that system instead of leaving it clinging to its historic level of performance?

In the United States as we have searched for a way out of this dilemma of stability, we have grabbed on to the TQM jargon as if it were a piece of wood in the ocean and we were drowning and had to hold on to it. We cling to it all too much now in the States without any deep sense of the change in approach that is implied by those initials, TQM. I would rather that you abandon the initials and instead become curious about the approach. What can we do together to accelerate the pace of improvement altogether?

No one can arrive in the Middle East without the additional hope that this question about improvement will be a question about improving together. We pay a deep, very expensive price in the United States for the fragments of care that we seek to preserve because one element of the investment in stability and first order change is that my role will not change. I've invested in my profession or my organization or my discipline and I will not change. You must. That focus on self, that intent to preserve professional boundaries or gender boundaries or organizational boundaries and have others change according to your concept of how you wish things to be, results in even more games, and even more cost and even more suboptimization of a system that has the potential to improve but cannot without further recognition of interdependencies. In the United States, this has to do with the relationship, for example, between doctors and nurses, or between hospitals and ambulatory systems, or between one hospital and another hospital that are so use to competing, they can no longer perceive of each other as being in the same system. But it will happen. In the United States, we are beginning to learn, I think, that building bridges across competitive boundaries, improving our

ability to work together, putting ourselves at risk in the effort to cooperate is the only answer to producing a system capable of what we seek.

A visitor to the Middle East notices how much higher the stakes are for you. Not only do you undoubtedly face the same issues of bridging across professional roles - physicians, nurses, administrators, and of bridging across institutional forms - hospitals, community projects, ambulatory clinics, government, NGOs, but you also have this incredibly difficult and incredibly powerful opportunity to take advantage of the Middle East as a region and to establish bridges between all the groups and countries in your region. It cannot be the case that a Middle Eastern system optimized country by country or nation by nation can have anything like the potential of a regional approach in which you have the opportunity to share resources, share assets, share information, share agendas and together as one region build a health care system that could become an example for the developing world and for the developed world.

Now let's take a minute longer and ask some questions about the vision of the system we might seek to produce such that it could improve at the rate I'm mentioning. Let me review for you from the morning the characteristics of a system capable of improvement. First, it is a system united by aims. All of the system's leaders, elements, organizations, professions, and employees share an aim of what they seek to accomplish together. In the Middle East, this would be reflected in a shared regional vision of the level of health status, the level of comfort, the level of dignity, and the level of accessibility that you wish your health services to have. Within an organization, it is reflected in the singleminded dedication of the leadership to improve, as the number one priority of the organization, and the willingness to define improvement in operational terms. That element of persistence is an escapable property of the search for second order change.

Third, understand the need. The improvements that matter in the appropriate management of quality are improvements that matter to the people who depend on you. It is not your need for self-preservation that matters. What matters is the need in the society which depends on you to bring them what they pay you for, the needs of the public who depend on you. Knowing those needs is crucial and one of the important elements in a quality management system is to be able to measure, understand, gather data on and listen continuously to the public need.

Fourth, we must understand the system through which we currently attempt to meet that need and to be able to manipulate and change that system as time goes on. As you saw in the bead game demonstration, quality management is a system of leadership focused on process, not on people. If the effort to improve is focused too thoroughly on exhorting good people simply to try harder, it cannot get very far. Quality management depends on changing processes of work and that requires knowledge of those work process. As you engage in the simulation this afternoon, as you hear the presentations by Dr. Massoud, as you listen to the various experts who have been brought here to talk about improvement, watch how important this concept of understanding systems is in the general approach.

Fifth, quality management demands the investment of time, money and energy in the effort to improve. It invokes an agenda of training, of project work, of data collection and analysis. An organization, a system or a region that wants to improve must reallocate resources towards improvement as a fundamental agenda.

Sixth, quality management involves measurement. We seek new levels of performance and we cannot possibly know whether we've achieved those levels, what works and what does not, without a commitment to the measurement of achievement. But now, the measurement of achievement is not for the purpose of judgement, exhortation, blame or incentive. The measure of achievement is there because it is the only way to guide our own work. Just as if I wish to be better at my hobby of playing tennis or chess, I must know how I'm doing at the game, so in health care, we must have the knowledge of how we're doing.

Quality management involves the setting of improvement agendas. It would be hard for me to overemphasize to you the importance of specifically identifying the aims you have in your regions, in your nation, in the Middle East as a whole, and managing your efforts toward those specific improvements. This is exceedingly difficult in the United States where the agenda of improvement is constantly changing and where managers and leaders often are frightened to commit themselves and hold to a course because the world seems so ever changing.

Quality management involves a commitment to innovation and to trials. We're interested in change. In quality management, the changes are developed through tests. It is said in Japan, in Toyota, one of the best automobile manufacturing companies, that over two million suggestions per year are

garnered from the work force. Two million suggestions for the improved production of automobiles. Most of those suggestions represent specific trials conducted by workers and reported to the leadership as the result of a trial. The mentality of trial is an important component of the consciousness of quality management. It is absent in the customary systems of production, inside and outside health care, as our work force seek to struggle though a day with no time or energy or support to engage in innovation.

Quality management involves everyone. It is simply no longer possible in our complex systems to have the boss be the person with the answers and, in fact, it was never really possible. Knowing that, however, has not been enough to enlist the energies of the work force in the improvement process. In the bead game this morning, we had the workers struggling for a voice, struggling to participate in the improvement of the system, a system that could not take advantage of their willingness to become involved. In quality management, we seek to change that. Now this involves new skills. To participate in the improvement of a system involves skills not normally included in the education of the American work force or the American physician or nurse. Therefore, in quality management, we emphasize the role of leaders as teachers. How can the improvements be made? What skills are needed? Where will I use those skills? Is it safe to try something? Can I conduct a trial?

One of today's speakers, Mitch Rabkin, the CEO of Beth Israel, once told me a story of walking the halls with the Chairman of his Board after he first arrived. The Chairman of the Board reached down to the floor to pick up a scrap of paper and the new Chief Executive said: "Why are you doing that? We have a custodial staff to clean the floor." And the Chairman of the Board said, "But if I do it then others will." The concept that leadership is a matter of example is an important component of quality management.

Quality management is not organized around standards or minimum thresholds or making the grade. It is not about being acceptable. It is an investment of an organization in the continuous improvement of all processes, not to meet a standard, but to be better at what you do.

All of the above, is only achievable through cooperation. Quality management quells interest and competition. It discourages investment in winning while others lose. It decreases a sense of being different. It increases a sense of interdependency around shared aims, around the understanding that we serve the same people and they expect us to work together. Quality management emphasizes cooperation in the search for improvement. In the health care

system, this demands new sensibilities between doctors and nurses, between managers and clinicians, between organizations of all types. In the Middle East, undoubtedly, if you wish to engage in the kind of regional activity of which you are capable, it will involve and build upon the will to cooperate with each other across dramatic lines of difference in the aim of achieving benefits for all the people who depend on you.

I commend you for your efforts. I look forward with great pleasure to the remaining two days and to becoming, if I can, a full participant in your efforts to improve an area of the world that the whole world watches.

Session IV . . . . . .

The Implications for Action By Senior Leaders

Abed El Gabar El-Tibi: I would like to introduce our speaker, Paul E. Plsek, an independent consultant with fifteen years of varied experience in the field of quality management.

Paul Plsek: Before I begin I would like to respond to a question that was raised in the morning session. Someone asked whether or not the ideas of Total Quality Management were flexible. The answer to that question is yes. What is critically important is that you find a way to take these ideas and adapt them to your organizations and cultures. Our role as speakers is to give you some general knowledge about these ideas and their application in medical centers. You will have to decide how to implement them in the context of your organizations.

My presentation this afternoon is on the role of senior leaders. I will quickly review the principles of quality management and from that, draw some implications for actions by senior managers. Then I will describe a model for thinking about how to make change happen within your organization, again drawing some implications for actions by senior managers, and finally describe some of the measures of success that leaders can expect to see over time.

I want to emphasize that you cannot implement quality management in a single act as you might install a new piece of equipment. It is better to think about it in the metaphor of a journey. You can begin to take steps on a journey that will last for a long time, and in fact, may never end.

Now I want to quickly review some basic ideas and concepts that underlie the application of quality management (see Figure 1). First, it is important that we understand that all work is a part of a process. When we want to improve things, we must improve the process. This is the starting point for all of our improvement activities.

A second principle of quality management is that the customer, the beneficiary, the user, the recipient, whatever word you would like to use, is the final judge of quality. Our entire focus for improvement must be towards serving the needs of the population of the community which we serve.

Thirdly, an important idea in quality management is the notion that there are many sources of variation. The variation can be due to the way the people do the job but it can also be caused by the machines or the materials or the methods or the measurements that are used in the process. We need to be able to address all of these sources of variation.

Figure 1: Principles of Quality Management

- ***All work is part of a process***
- ***Customers are the final judge of quality***
- ***There are many sources of variation***
- ***Continous improvement is the standard***
- ***Decisions should be made with facts***
- ***Prevent problems by re-designing the process***
- ***People are the source of knowledge about improvement***
- ***Active leadership is critical to success***

Fourthly is the notion of a continuous improvement. We are not trying to make a single breakthrough but a continuous series of breakthroughs. We also want to make these changes scientifically, using data and facts. We also want to understand that integral to quality management is a positive view of the role of the people who work within our organizations. This may require a change in some of your organizations to really trust the people who work in the process. To really stop and listen to the people who work in the process is a key source of action for senior managers.

Finally, the notion of transformation will require active senior leadership. It has been demonstrated over and over again in North America and I think it is also true in Europe, that these efforts to manage our organizations in a different way do not succeed without active senior leadership. In the next few minutes I want to talk about some of the specific actions that senior leaders ought to undertake.

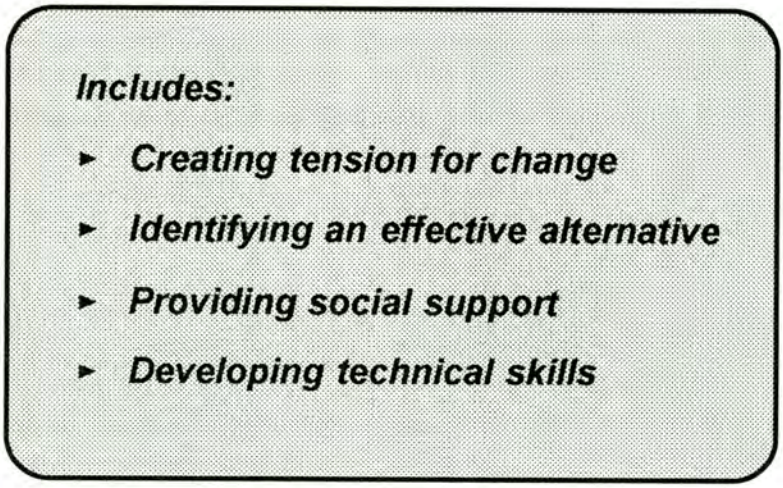
An important way to begin to implement TQM principles is through a quality improvement project or quality improvement team. We find that in many organizations, rather than trying to transform the entire organization in one step, it is easier to start with one small piece of the organization, a single process. For example, we could form a group of people to address a performance deficiency in the process for handling laboratory samples or in the process for handling medications. The key idea here is that the improvements are made by the people who work in that process and that they need to be recognized by leadership. What do I mean by being recognized by leadership? That recognition is one of the first active implications for senior leaders. It does not help to simply exhort people to improve some process. They need to know what resources are available for making the improvements. We have found that when the teams know what resources there are - even if you have to say there are no resources, we must improve this process without adding additional staff or without spending additional money - they rise to that challenge.

What are the implications, what is different about what I'm saying? One of the temptations for senior leaders is to say we already do all of this. We already have teams of people solving problems. But an important difference is the rate of improvement: the capability of the organization to improve hundreds of processes and systems annually. The implications for senior leaders are that we are going to have to find ways to make it possible for people who work in the process to improve those processes. That's going to require some allocation of resources. It is going to require a commitment to make the improvements. It is going to require some changes in priorities that make improvement a priority within the organization.

The bottom line of what I'm saying in this discussion about the principles of quality management is that the role of senior leaders is to create an organizational infrastructure that allows the people who work in the process to improve the process.

I'm now going to speak about the model of how change happens (see Figure 2). How do we make change within an organization? There are four basic elements in making change. This model, by the way, comes from a variety of places. It is in the literature on change and whether we're talking about a personal change, a change in our family system, a change in a work system, a change in a nation, it turns out that the same basic elements apply. In order to make change happen, we must first have some tension for change. I use the word tension in this context very carefully. I realize what using the word tension to a Middle Eastern audience might bring to mind. There is one kind of tension that erupts into destruction, a kind of tension that makes things fall apart, but there is another kind of tension that works for positive and constructive means. It is a tension that recognizes that simply continuing to do what we've always done will not be sufficient for the future. Unless there's a recognition of a need for improvement as Don has mentioned, improvements are not likely to happen.

Figure 2: A Model of Organizational Change



Secondly, part of change, is to identify an effective alternative. Here, again, experience teaches that if you simply exhort people to do better, if all you do is create tension for change, say you must do better, but don't provide any means for doing that, then improvement is not likely to happen. Those of you who witnessed the bead game this morning, saw that the boss of the process exhorted the workers over and over again to make only blue beads. But he

didn't provide any method by which they might do that in a different way. The principles of quality management are suggested as one effective alternative.

Thirdly, another element of change, whether it is a personal change or an organizational change, is the need for social support. It is very difficult to change when you feel like you're all alone. One of the most effective things that senior leaders who are making changes in health care organizations have done is to simply set up a telephone call once a week with a colleague in another organization to talk about what they're trying to do. That provides some social support.

Finally, in order for change to happen, those who have to execute the change must have the requisite technical skills. Again, it does no good to tell the workers to focus on the process if we haven't explained to them what a process is, if we haven't shown them how to draw a flow chart of the steps of that process or how to collect data.

But I want to also point out that many organizations think that offering training programs is the only thing they have to do. It is tempting as a senior leader to say: After this conference I will go back to my organization and put on a training program for all of my managers. But if there isn't a clear tension for change, if there is not some social support to make that change happen, simply providing skills and training isn't going to do a whole lot of good.

So what are the implications for actions by leadership? First, you must yourselves become agents of change. For you to explain to the organization why improvement is necessary you have to have figured out for yourself some reasons why you want change. A second important implication for senior leaders is that the change might have to begin with you. That's a rather serious thing to say because many of us talk about change as being something that someone else needs to do. If they could only change, if the nation could only change, if the culture could only change, as if change is something that happens out there. If change does not happen in your own management style, it is not likely that you will see change in your organization.

The third part of my remarks are about how we might begin to get started on this journey of quality management. I like to talk about the first three years. When I talk to organizations, often people say, "What you've laid out is going to take us a bit longer than three years." That's true. In fact, it may take you forever. Quality management is not something that you can implement as you could a computer system. It is a journey with steps. The metaphor of a journey

is an important one. It frees you from worrying about reaching a final destination because if you're starting on a journey, as long as you're generally headed in the direction that you're trying to get to, the exact location of your first step is not so important. The first step is just a first step. There will be a second step and a third step and a one thousandth step. However, it is useful to think in terms of four major phases.

The first phase is the time that you'll spend making a decision. The goal of the decision phase is to make an informed choice and to begin allocating resources. I want to emphasize the words - to make an informed choice. Too many organizations have made an uninformed choice to do quality management. It's, as Don phrased it, a fad. Please take some time, whether it is three months or six months, to study the concepts and understand what it is that you're implementing.

The second phase of this journey is the phase of preparation and practice. The goal here is to develop a depth of knowledge in senior leaders by completing six to twelve initial projects. Here I want to emphasize initial projects, meaning some small process like delivering lab samples or the treatment of asthma. Over the next year or so, try to get six to twelve of these projects going. This will help to develop some depth of knowledge in your leaders. They will need to think through the initial projects: what processes do we want to improve, how will we staff them, what people need to be involved in the team, and what training will we give them so that they will know what it is we want them to begin doing.

Let's be clear about their goal and about whatever resources they do or do not have to make these things happen. How will we remove roadblocks? The role of senior leaders in starting these initial projects is to work actively to remove the roadblocks. If the teams are coming back and saying, "We would like to study such and such but we cannot get any data because the people who work in that process are afraid that if we gather data it will be used to punish them," it is the senior leaders' role to say, "I will speak to them. I will give them assurances that what we're trying to do is to improve, not to punish." The senior leaders must be active in these early projects.

A third phase of this journey is the phase of expansion. How will we now develop depth of knowledge across a broader cross-section of the organization? I want to point out that this phase in the journey is at least 18 to 24 months away. Please do not go back to your organizations, as some have done, and try to develop some organization-wide training program that everyone will go

through to be sensitized to quality management. Please don't go back and assemble all of your managers and tell them, "Beginning tomorrow, I want you to routinely begin to manage in this way." This will not work. It's been tried many, many times before. Until you've done some change yourself personally, until you've changed some small piece of your organization, it is not fair to ask the whole organization to do a sudden change.

The fourth and final phase is the phase of integration. The integration phase is at least three, four or even five years away. This is when quality management becomes the natural way that we do things. If you visit corporations which have been using these principles of quality management for many, many years and ask to meet the person that is directing their Total Quality Management effort, they will look at you blankly. They will not be sure what it is that you're talking about because they have reached the point that these principles and ideas have become the way they do things on a regular basis. There is no program. There is no director of TQM, three, five, ten years out, because it has become a part of the way the organization operates on a regular basis.

What then are the implications for actions by senior leaders from this model of four phases? First, you need to be involved in setting up the supports. How will we staff the projects? Where will we find time? What will the initial projects be? It may require that you let go of some of your power. This is very hard and I realize from the comments that I received from a number of people at the breaks that it may be a special challenge in some of your organizations and cultures where the people, historically, expect the leader to have all the answers. To let go and to say I don't have all the answers is a very frightening thing. Make role modeling and leading by example your first personal change. Realize that you may have to try it a number of times to get it to work. See yourself not as the boss but as a teacher or a coach, as someone who is there to try to help the organization do its work better. An important implication is for you to learn how to learn yourself. Don has mentioned the notion of continuous learning as characterizing organizations that are managed in a quality management way. If you don't know how to learn something new, how can you expect your organizations to learn something new. Make a concerted effort to learn something new in the next couple of months. It doesn't really matter much what it is. You'd be amazed at the change in yourself and your ability to be aware of how hard that change is for your organization.

Finally, you have to be there. You have to do it yourself. Quality management is not something that you can simply delegate and then go on to worry about other concerns. In the initial efforts be involved. A senior leader in a hospital that I worked with in Cincinnati took it upon himself to be the coach of one of the initial quality improvement teams. It was a team of people trying to look at how patients were transported form the nursing floor down to the X-ray department and back. Patients were being lost in the hospital. You'd find them on stretchers and in wheelchairs in halls, waiting for someone to bring them back to their beds. They had just been left there.

This senior leader formed a team and became its coach. One of the nurses accepted the responsibility to lead the team and the senior leader came to every meeting and learned about the process, provided help and guidance, helped the team think through the steps of the process and helped them begin to implement some changes within that process. He did not tell them what to do, he helped them do what they saw needed to be done. That's a different kind of leader.

Let me stop here and say that what I've tried to do in this talk is to lay out some ideas about what this quality management structure means for the actions of senior leaders. It is important that you understand that it is your responsibility to help people improve the system. No one else can do it. It is your responsibility to be the agents of change which may mean changing yourself. Finally, it is your responsibility to set up project teams to begin the process of dialogues. We'll now take a few minutes for questions.

Question: I'd like to go back to the issue of motivation for change. Don this morning pointed out that cost containment was a major motivator for quality management in the United States and Dr. Khater told us how in Egypt the health establishment is heavily dominated by government provision and financing. For those of us who come from cultures where government has traditionally dominated the health establishment and the public sector provision, we are witnessing now a transition due to economic reform and structure adjustment. Hospitals which have been providing health services for patients who do not have other alternatives and who do not pay for the service out of their own pocket are moving into a phase where they have to recover their costs, where they have patients who will be paying out of their own pocket and will have an alternative. We are facing a situation where physicians who have had job tenures for life no matter what the level of performance, will now have to meet a level of performance to keep their jobs. So the point I want to make is that a big motivation for the health establishment as a whole

is survival. The hospitals will not survive and physicians will not survive, unless there is quality care.

Paul Plsek: If you recall the model of change, the first element is to create tension for change. I would submit to you that there's plenty of tension for change in the remark that you have just made. Now the question is whether or not that tension for change will lead you to do something positive and constructive in a brand new way or whether you will keep trying to do what you've always done and will that lead you to any kind of improvement. Will the tension for change be positive or will it be negative?

Question: I would like to comment on the actions of leadership in the model for change you presented. You talked about letting go of positions of power. Wouldn't it be better to use the term empowerment?

Paul Plsek: I would agree that that's a much more positive way of stating it but I would also caution you that empowerment is another one of those words, like TQM, that people use sometimes without understanding what it is that they mean. I am amazed by how many senior leaders think that empowerment means anarchy, means that they no longer have a say in anything. That's not what empowerment is. Empowerment is about trust. I trust you to take on this responsibility. It used to be my responsibility but now I will specifically take that responsibility and give it to you because I trust you to do it. Not only do I trust you to do it but if you get stuck, if it isn't working out for you, my door is open, come in and talk to me and we can talk about how you might do it. The resources that I have always controlled, I will now distribute. Empowerment is a much more active kind of thing than what a lot of senior leaders think it is. I tend to avoid the word empowerment because people have never fully understood it.

Abed El Gabar El-Tibi: Thank you very much. I would now like to introduce our next speaker, Dr. Hugh Koch, Managing Director of Koch Consultancy Services.

Role of Senior Managers in TQM: International Perspective

Hugh Koch: I feel very privileged to take part in a conference that has participants from so many different places: The West Bank, Gaza, Israel, Egypt, South Lebanon and the USA. Many important issues have already been raised: The handover of the administration of health care in Gaza and the West Bank from Israeli to Palestinian administration, the long-term improvement of

quality in Egyptian health care systems, collaboration between systems throughout the Middle East, and also the importance of both primary and secondary care. I think this conference, like many hospitals and community services, has already raised many different issues, some of which are common and some of which are individual. However, the desire to share the wide range of knowledge and experience represented by the participants seems to be universal.

My topic is the role of senior managers in TQM. I was in Hong Kong recently at a five-day session for the top executives in one particular hospital. They had committed themselves to bringing their top 30 staff members together for one week and then another week three month later. The chief executive stood up at the beginning and said that they should think of their customers not only as partners but better still as family.

One of the main underpinnings of quality management is putting the patient, the client, the customer, the beneficiary, first. In supplying services to people we talk about trying to meet their expectations, if not exceed what they expect. Do you know what the latest label is after exceeding? The latest buzz word in the literature is "delighting". Can I ask how many nurses there are in the audience? Those of you that still see patients, do you think you delight your patients professionally? Yes, I think you do. I think health care in any walk of life around the world contains this delight for some patients. Realistically, it varies. Quality in management is about seeking out that variability in our ability to delight our patients. Part of it is do we listen to what our patients tell us? Do we get feedback from our patients and do we do something with it? Do we give patients information so they can make informed choices about their health care?

Getting it right the first time. Another buzz phrase. What is the service? Do we have explicit information about the standards of that service, the standards of the bead factory? Do we fully know what we are expected to do? Then, of course, we try and do it right the first time. What happens though when occasionally as human beings we don't get our medical care or our nursing care right the first time? Imagine in our clinic a medical record has been lost. The patient comes back in a month's time. That's the second time. Is that the earliest we can put that problem right? No. As soon as we realize there is a problem, it is potentially possible to put it right.

What do they do in factory lines? In a factory making goods, if they find the goods are defective, they stop the factory line. They put the problem right and

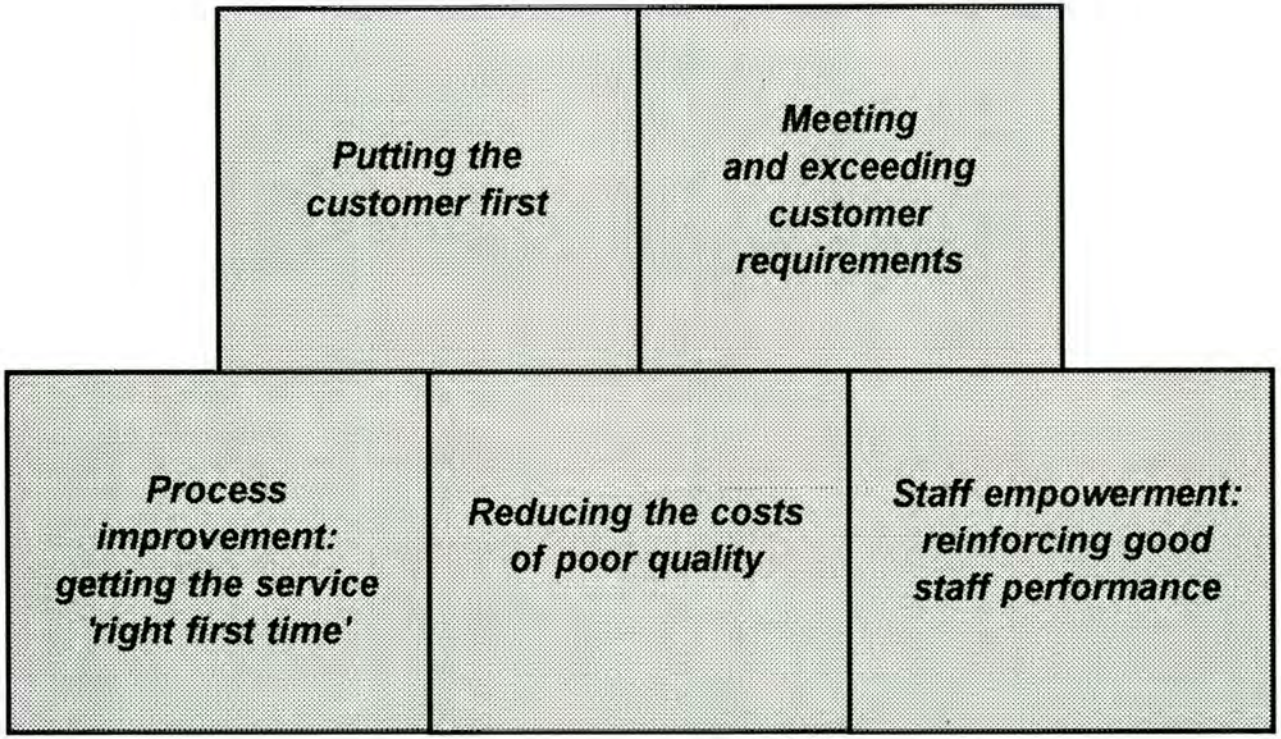
then they start the factory line again. With many of our problems in health care, quality management is about this feeling of when there is a problem, do we feel that we can get it put right.

One of the exciting things in quality management that has been implied by our speakers this morning is the exciting issue of searching for a problem and putting it right immediately. It sounds very simple but it is difficult to do. One of the most controversial areas in quality management in the UK at the moment, and I think it applies equally elsewhere, is the link between quality improvement and resources. A key controversial issue is if you invest in quality improvement, will the resources that are tied up in inefficient activities be reduced? All the literature from outside health care indicates that at any moment in time, in a growing organization, we are likely to be five to twenty-five percent inefficient. In health care in the UK and other places that I've worked in that's been proved time and time again. The highest figure we found was in one study in community nursing where 38% of their resources were being wasted.

Finally, the idea of reinforcing good staff performance is one of the key concepts in making all this work. Quality is part of everybody's job. One of the key roles for managers is to empower staff to innovate and change things because 1) the managers don't know what to do all the time and 2) they don't have the energy and the time to change everything. If you look at the hospital like a social system, one way of judging how much total quality management is in place, is to judge the distance between your most highly paid person, probably the chief executive and senior medical clinicians, and the lowest paid worker, probably members of the domestic portering staff. If the distance is wide, staff are not going to feel empowered. If that distance is shorter and there is a flatter hierarchy, it is more likely that the most, if not all of your staff is going to feel involved. And I think it is important that we mention that there are various staff working in our hospitals. We have managers. We have doctors. We have nurses. We have porters, domestics and so on. Try running your hospitals without your porters; it is quite difficult.

Managers have varied ideas about TQM. I imagine in your hospitals, like the hospitals in the UK or Hong Kong or New Zealand where I've had experience, there are wide variations in people's understanding of the total model. Figure 3 implies that to get continuous improvement, to get this ball moving up the hill, we need to be sensitive to the customer, the patient, the client, the beneficiary. Have we got our finger on the beneficiaries pulse? Do we know what they feel about the service? Have we got process improvement alive and

Figure 3: Core Values of TQM



well within our system? I think all of us this morning and this afternoon are saying in one sense, although the quality today of our health care is very important, what is even more important is the question - is that quality improving? Even in a hospital where elements of care are not very good, if there are quality improvement processes, they will go on improving. The final idea is that of empowering staff. All of this needs to be managed within the system and, obviously, the role of senior managers is crucial.

I'd like to talk now about management's responsibilities for quality improvement. First of all, we know that quality is part of everybody's job. Quality means every aspect of what we're doing. Quality applies to our financial controls, our personnel management and the way we run the service. This morning we've heard about the need for a framework for managing quality improvement.

All hospitals have a management structure. Everybody knows who they are accountable to, who hires them, who fires them, who supports them, who appraises them, who trains them and so on. It is crucial that quality improvement reinforces that management structure and doesn't take away from it. We do need some form of organization like a senior person in charge of this function, a director of quality, a quality improvement steering group or whatever we might call it to pull together not quality, because that's the job of the staff, but the quality improvement process. It is crucial that the senior managers have an understanding of what the common patient trail is, in a hospital or a community service or a primary care setting. The manager needs to understand what are the key issues in that patient trail, how the clinicians are managing and therefore, how he, as a manager, can support those clinicians. In the UK, there's been quite a big emphasis on raising the awareness of managers of actual clinical practice and processes.

I'd like to return to the role of managers in the issue of linking quality and resources. Quality and resources, as we know, are linked in three ways. If we add more money to a good service, we'll get more good quality. Obviously, conversely, if we add more money to a poorly controlled service, we'll get more poorly controlled quality. So a big investment is not always necessarily a good thing. Secondly, quality and quality improvement can also be cost neutral. Can you think of something you have done or your staff have done in your facilities that have improved quality at minimal cost? Finally by improving quality, we will identify and reduce the level of waste. I would suggest that in all our hospitals, we have a level of waste at any one moment between five and twenty five percent. By focusing on quality improvement, not

on cost reduction, but on quality improvement, we will find that we are able to identify and release high levels of resources to work on the sorts of problems that we talked slightly about this morning. These include things like pressure sores, hospital acquired infection, prescribing errors, variable management of depression, and time management in our clinics and in our non-clinical meetings. How many of you have meetings that don't start on time? Just for the sake of argument and on a lighter note, for various reasons we started half an hour late this afternoon. Just imagine what that half an hour costs on paper for a group like this.

A key to successful health care is - how do you inculcate into the organization successful disobedience or subversion? This means empowering staff to change all the things that are wrong with your hospitals. While you are here, they are there being subversive. They are changing the car parking. Their meetings are now starting on time. They are doing this and they are doing that. People talk about empowering quality improvement teams to unleash their potential. This means saying, I want to let you have a longer piece of rope, more authority, more responsibility and I want to support you in how to do that. That makes managers brought up on MBO, managing by objectives, very nervous.

In conclusion, quality management is top layered and bottom fed. We have structures that are organized usually top down. Managers have the role to lead the planning, the implementation, and the maintaining of the momentum in quality management. Staff have the role of implementing it, producing quality service, continually trying to improve it. It is top layered and bottom fed. We haven't said much about the word Total in the Total Quality Management phrase. The word Total means that where on one ward we found an improved process, let's generalize that to all wards. If one meeting starts on time, let's develop that into a feature of the hospital's culture. If the infusion pump situation on one ward is changed, let's make all the wards have it. If we have seminars for one group of staff, let's ensure that all the relevant staff have them.

Finally we've heard about the importance of personal commitment. Is the manager seen to pick up that piece of paper? Are managers modelling all the things that we're talking about? When I was a manager, my door was always open. And, finally, as I've tried to put across, albeit it in a slightly more formal presentation than I'm used to, quality management is fun because to motivate yourself and your staff, whatever culture we're in, it has to be fun and enjoyable. That is the main way in which we will change services. Thank you very much.

Abed El Gabar El-Tibi: Thank you. And now I would like to invite our next speaker, Dr. Rashad Massoud, a Palestinian doctor from Nablus, West Bank and a member of the Steering Committee of this conference.

Applying Quality Improvement Methodology to a Critical Communications Process of Outpatient-Alert Value Tests in a Hospital Laboratory

Rashad Massoud: Thank you. Please allow me to start by welcoming you all here again and thanking Sharon Kleefield who is Senior Associate of Quality Management at the Brigham and Women's Hospital in Boston, for kindly providing the data for this lecture. It is unfortunate that she cannot be with us today.

What I am about to present is an illustration of the use of the methodology of quality management. In this illustration, quality management methodology is used to improve the communications process by which outpatient alert values are relayed to the appropriate person. The data come from the Brigham and Women's Hospital. The analysis is conducted in accordance with an adaptation of the Shewhart Cycle.

The Shewhart Cycle consists of four parts - 1) planning a process; 2) carrying out this change; 3) checking and evaluating the result of this change; and then 4) acting in accordance with the checking that we have made in order to further improve the planning process. The adaptation we are going to use is that of Dr. Paul Batalden. It is known as the FOCUS - PDCA Model. The FOCUS - PDCA model consists of the following parts: F stands for finding a process to improve. O stands for organizing a team that knows the process. C stands for clarifying current knowledge of the process. U stands for understanding sources of process variation. S stands for selecting the process improvement. This is followed by the Shewhart Cycle proper: P is planning a change; D is doing or carrying out the change. C is checking and observing the effects of the change. A is acting, adopting or modifying the plan.

I need to start with a couple of definitions. The first definition is that of an alert value. This is a lab result of sufficiently abnormal magnitude that it needs to be immediately communicated to the appropriate person. If the result is not promptly communicated, the patient may suffer adverse effects.

In Figure 1 we see a table which shows the alert values from the Brigham & Women's Hospital laboratory: we see the range above which or below which this would be regarded as an alert value.

The next definition is the definition of the person who is deemed appropriate to receive the alert value. This is either the physician who is responsible for the patient or the physician who ordered the test. They should not be the same person. However, hospital policy also states that in their absence, alert values should be conveyed either to the nurse in charge or the physician's secretary depending on the clinic. If all else fails, then alert values should be conveyed to the emergency ward. Again hospital policy states that reporting alert values to the emergency ward should be regarded as a failure and should be promptly investigated.

Some background information. The Brigham and Women's hospital is a 736-bed tertiary care facility affiliated with Harvard Medical School. The clinical laboratory processes an average of 3.8 million tests a year. Approximately 1,000 of these are out-patient alert values. Lab tests are ordered either as routine or as stat, stat being urgent tests. Approximately 81% of the outpatient alert values are requested as routine. The turn around time for routine tests is just under five hours and the turn around time for stat tests is just under one hour.

The story of this particular quality improvement project is a story that happens every day not only at the Brigham and Women's Hospital but at any hospital. The story goes as follows. The lab technician identifies an alert value for one of the tests from the outpatient clinics. He double checks this result and logs it into the computer database. Then he initiates the search for the person who is deemed appropriate to receive this alert value and act upon it. On completion of the process, he logs into the computer to whom the alert value was relayed and at what time this occurred. By the way, it doesn't have to be a computer. It can be the simplest registry book.

What initiated the quality improvement project? This project was initiated by the lab technicians who expressed their concern that they were making some five to seven phone calls in order to communicate an alert value. Also, in a substantial proportion of the cases, there was a failure to actually transmit this alert value. Three problems were identified with this process of communicating the alert values. First, a large number of alert values were not being relayed. Second, lab technicians were wasting time and effort trying to relay alert

Figure 1: Alert Values

TEST	LESS THAN	GREATER THAN
Acetamenophen (ACE)	...	50
Alcohol (ALC)	...	400
Alpha Fetoprotein-tumor (AFPT) Amikacin (AMIK)	...	40
Bicarbonate (CO2)	12	40
BUN	...	36
Calcium (Ca)	7.5 (6.5)	120
Carbamazepine (CARB)	...	13
CK-Isoenzymes	...	12
Cyclosporin (CYCA)	...	pos
Digoxin DIG)	...	800
Dilantin (DIL)	...	2
Glucose (GLU)	50.0 (30)	25
Gentamycin (GENT)	...	450
GOT	...	20
Hepatitis B Ag (HBAG)	...	2000
Hepatitis C Ab (HCV)	...	pos
Lidocaine (IIDO)	...	pos
Lithium (LIT)	...	7
Magnesium (Mg)	1.2	2
Methotrexate (MTX)	...	7.5
NAPA	...	50
Phenobarbital (PHENO)	...	25
Potassium (K)	2.5	40
Primidone (PRIM)	...	6
Procainamide (PA)	...	15
Quinidine (QUIN)	...	12
Salicylate (SAL)	...	8
Sodium (Na)	115.0 (125)	30
Theophylline (THEO)	...	160
Tobramycin (TOBR)	...	25
Valproic Acid (VAL)	...	20
Vancomycinb (VANCO)	...	150
		160

( ) = Neonatal

WBC	1,500.0 x 1000	30,000.0 x 1000
Hgb	6	21
Hct	20.0% (28.0%)	65
Plt	40000	800000
PT	...	30
APTT	...	100
Fibrinogen	100	...

( ) = OB floors only

values. Third, lab technicians were not sure how the alert values were meant to be relayed in case paging the physician failed.

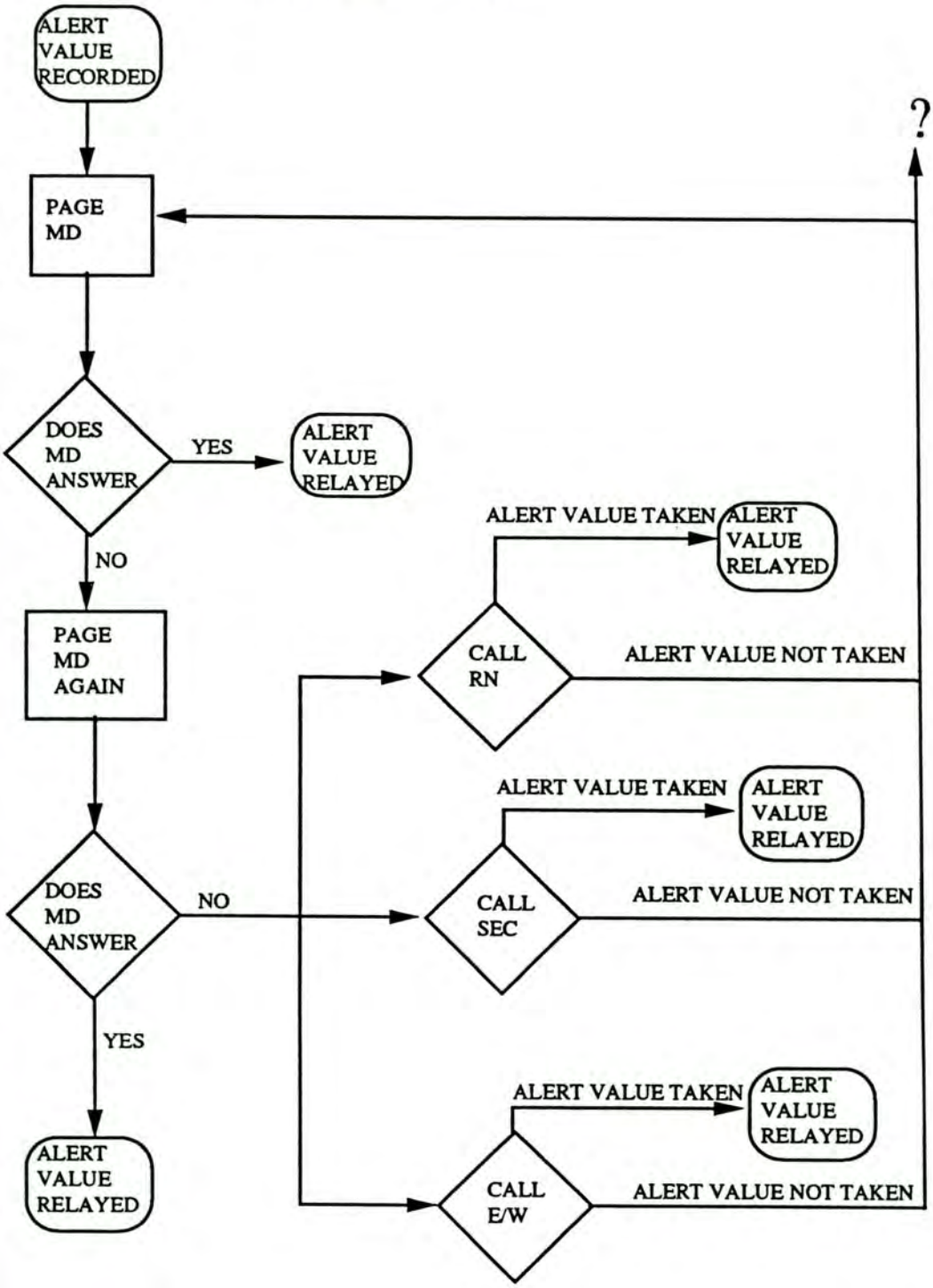
What I will do now is walk through the quality improvement journey step by step according to the FOCUS - PDCA model that I described earlier. First, F, find a process to improve. The process for improvement is the process by which the outpatient alert value laboratory test results are communicated to the appropriate person. Second point, O, organize a team that knows the process. The team that knows the process consisted of the laboratory manager, laboratory technicians, ambulatory nurses, ambulatory secretaries and ambulatory physicians. It is vital to choose the right people, the right team. Any outcome is really a function of not only processes but also of inputs. Human inputs are very important.

C, clarify current knowledge of the process. The process consists of the steps taken from the moment the result is reported until the result is received by the appropriate person. This is essentially a process of communications. Knowledge of the process is obtained from the team that knows this process. This is done by means of brain storming. The result is displayed in the form of a flow diagram (see Figure 2).

The flow diagram is the result of charting the process by which the alert values are communicated. The process starts the moment an alert value is recorded. The first step is to page the physician in order to communicate the alert value to him. If he answers the paging then that alert value is communicated. If not, then a second attempt at paging the physician is done which may either result in the alert value being communicated or not. If it isn't, the lab technician faces one of three choices which he has to make basically on his own - either calling the nurse or calling the secretary in the clinic or calling the emergency ward. In any one of these three cases, the alert value could be communicated in which case it is relayed and taken care of. Or it may be refused. People may say this is not my work. I do not know the patient, etc. If this happens, then the lab technician is faced with either attempting this process again from anywhere he wishes to start - paging the physician or trying another station - or the alert value is seen as not relayed, not communicated, a failure in the process.

The next step is to understand the sources of process variation. Variation in the process that leads to the undesired outcome of delay or failure in communicating this alert value occurs in one of two forms. Either variation in the time taken to complete the process or variation in the number of steps

Figure 2: Process for Relaying Alert Values



taken to complete the process. The sources of the two forms of variation are again, obtained from the team that knows the process by means of brainstorming and the results of this are displayed in the form of a cause and effect diagram, otherwise known as a fishbone diagram (see Figure 3). At the end of the central arrow, we can see delay or failure in communicating the alert value. This is the end result. What we have is the factors that could contribute to this undesired outcome. The factors can be grouped into five groups. People, machines, materials, measurements and methods. This is a process by which we look at all the sources that can lead to it. In other words, what the cause and effect diagram gives us is a qualitative understanding of the diversity of the sources of process variation.

In order to obtain a quantitative understanding of the magnitude of the sources of process variation, an initial set of data measuring the frequencies of the communication process was collected. This is the initial data set (See Figure 4). We see that in a period of two months, we registered 106 alert values which were communicated to different stations. Some 55% were communicated to the physician; others were communicated to nurses, secretaries, physicians on call, etc. We had set up a data set which quantified this process.

What it also shows us is that there was a 23% failure rate in communicating the alert values. The next step, S, select the process improvement. The team decided on the following improvement. There would be two attempts at paging the physician. If they were unsuccessful we would then proceed to one of two options. Option one occurs during regular working hours - nine to five. Alert values at this time are relayed to nurses except for one of the clinics called the Brigham Medical Practice where it was agreed that they would be relayed to the secretary. If the time is outside regular working hours then the alert values are communicated to the physician on call through the switchboard operator who has a list of on-duty physicians. As a last resort, if it is not possible to find the physician then the alert value may be relayed to the emergency ward physician. Certain arrangements had to be made with the emergency ward in order to get their agreement on this.

Figure 3: Cause and Effect Diagram

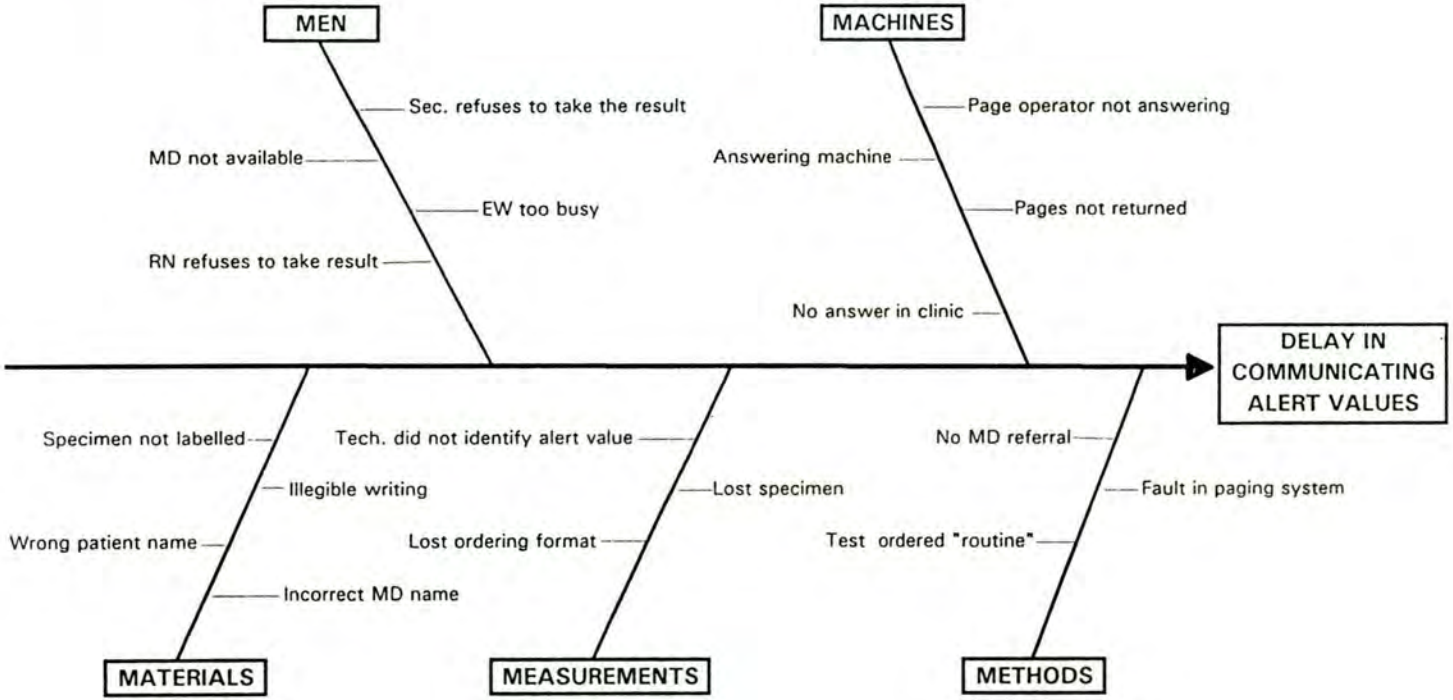


Figure 4: Outpatient Alert Value Relay

MONTH	TOTAL ALERT VALUES	RESULTS RELAYED TO												GREATER THAN TWO CALLS NEEDED
		MD		MD ON CALL		RN		SECRETARY		E / W		UNABLE TO COMPLETE PROCESS		
		#	%	#	%	#	%	#	%	#	%	#	%	
FEB/MAR	106	58	55%	10	9%	6	6%	8	8%	0	0%	24	23%	21

The next step, P, plan a change. The change planned involved the reengineering of the process. This consisted of examining the original flow chart (See Figure 2), identifying the loops in that chart, then examining the loops and redrawing the flow chart so as to eliminate them and introduce the new moves in the chart of the process. The result is a new process flow chart (See Figure 5). The new process flow chart starts again with the alert value being identified, two attempts at paging the physician which if they fail, lead to one of two options. If we are within regular working hours, then the alert values are relayed to the nurses except for the Brigham Medical Practice Clinic where they are relayed to the secretaries. If we are outside working hours, then they are relayed to the physician on call through the operator and in case that process fails then then alert values may be relayed to the emergency ward physician.

The next step, D, do or carry out the change. From now on, alert values are relayed by use of the new process flow chart. The team updated the rest of the staff on the new flow chart and how this process would from now on be carried out. The new flow chart was also displayed in the laboratory and clinics, in order for staff to continuously refer to it as they worked through it.

The next step, C, check and observe the effects of the change. The process is checked both qualitatively by the people executing it and quantitatively by continuous monitoring. This is the data set that was collected before and after the new process (See Figure 6). Obviously it is a lot of numbers but if we look at the third column from the end then we can see that the percentage of alert values that are not relayed following the introduction of the new process, actually started to decrease. This data is displayed on a run chart (See Figure 7). A run chart shows the percentage of non-relayed alert values for every month. And here we can see process improvement. The original percentage was high. Following the introduction of the new process flow chart, the percentage of alert values not relayed decreased significantly. We can also put control limits on this.

In Figure 6A we see the table again, the data set with the mean of the alert values that are not relayed, the standard deviation and the control limits worked out. Figure 7A is a control chart, a P chart, showing the proportion of alert values not relayed similar to the run chart but here we have the control limits. What this is showing us is that the mean for the new process, the mean of the percentage of alert values that are not relayed is three percent from an original of twenty-three which tells us that there is some twenty percent improvement in the process since beginning the quality improvement project.

Figure 5: New Process For Relaying Alert Values

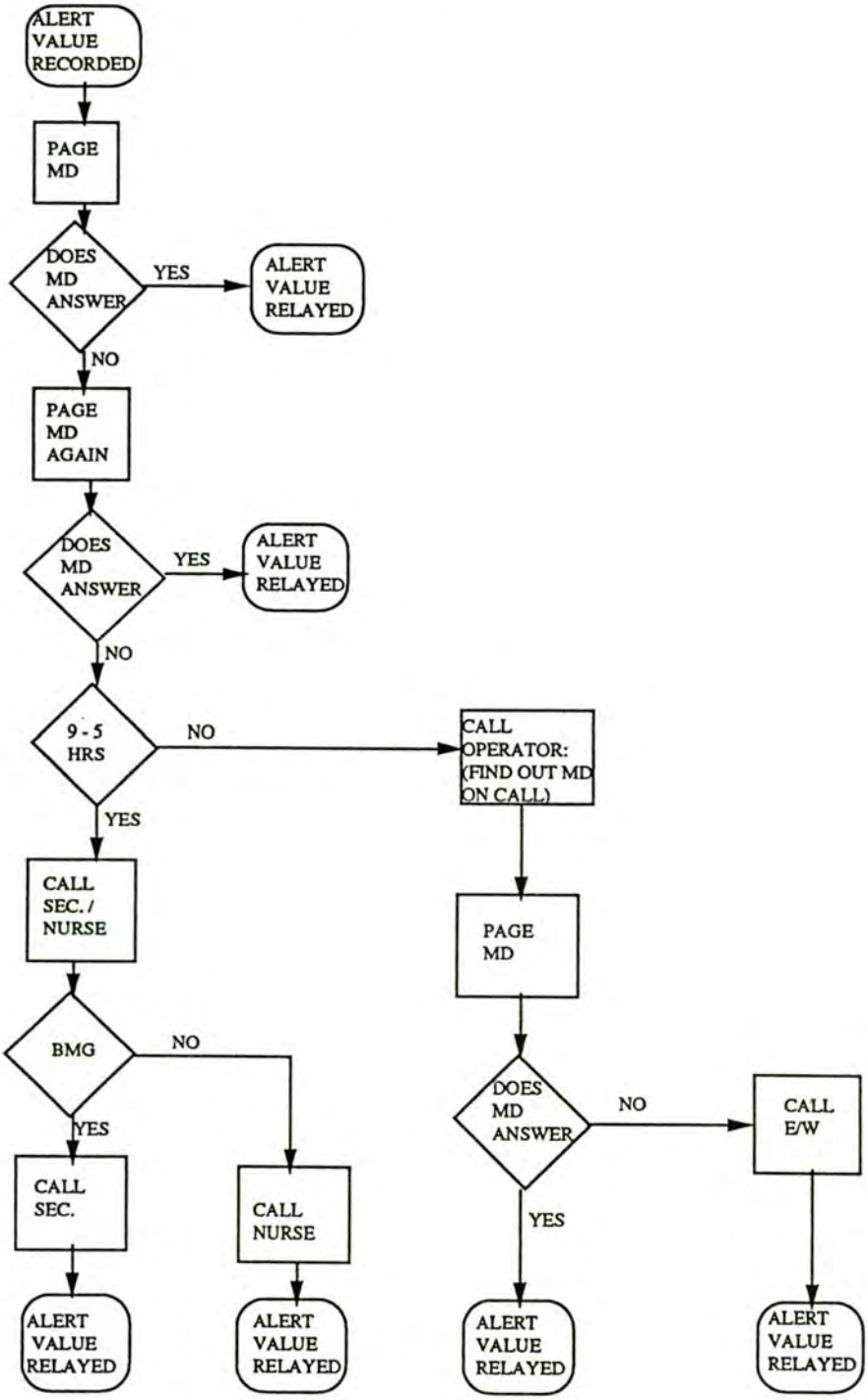


Figure 6: Outpatient Alert Value Relay, 1991-1992

MONTH	TOTAL ALERT VALUES	RESULTS RELAYED TO												GREATER THAN TWO CALLS NEEDED
		MD		MD ON CALL		RN		SECRETARY		E / W		UNABLE TO COMPLETE PROCESS		
		#	%	#	%	#	%	#	%	#	%	#	%	
FEB/MAR	106	58	55%	10	9%	6	6%	8	8%	0	0%	24	23%	21
APR	62	29	47%	7	11%	5	8%	4	6%	3	5%	14	23%	13
MAY	72	38	53%	12	17%	5	7%	10	14%	2	3%	5	7%	12
JUN	58	29	50%	11	19%	6	10%	5	9%	5	9%	2	3%	15
JUL	68	24	35%	31	46%	3	4%	3	4%	2	3%	5	7%	12
AUG	82	50	61%	17	21%	3	4%	10	12%	0	0%	2	2%	16
SEP	93	60	65%	18	19%	5	5%	5	5%	3	3%	2	2%	18
OCT	97	57	59%	4	4%	12	12%	15	15%	4	4%	5	5%	31
NOV	74	39	53%	11	15%	9	12%	12	16%	0	0%	3	4%	18
DEC	66	49	74%	6	9%	7	11%	1	2%	0	0%	3	5%	9
JAN	93	51	55%	11	12%	14	15%	14	15%	1	1%	2	2%	13
FEB	78	52	67%	7	9%	11	14%	7	9%	1	1%	0	0%	5
MAR	66	42	64%	9	14%	10	15%	4	6%	0	0%	1	2%	9
APR	84	42	50%	5	6%	17	20%	17	20%	2	2%	1	1%	13
MAY	103	58	56%	11	11%	15	15%	13	13%	0	0%	6	6%	16
JUN	96	48	50%	14	15%	23	24%	8	8%	0	0%	3	3%	15
JUL	62	35	56%	9	15%	8	13%	9	15%	0	0%	1	2%	5
AUG	72	41	57%	5	7%	16	22%	5	7%	2	3%	3	4%	7
SEP	93	71	76%	9	10%	6	6%	3	3%	1	1%	3	3%	7

Figure 7: Run Chart Showing The Percentage of Times the Relay Process was not Completed for Different Months

Figure 6A: Outpatient Alert Value Relay, 1991-1992

MONTH	TOTAL ALERT VALUES	RESULTS RELAYED TO												GREATER THAN TWO CALLS NEEDED
		MD		MD ON CALL		RN		SECRETARY		E / W		UNABLE TO COMPLETE PROCESS		
		#	%	#	%	#	%	#	%	#	%	#	%	
FEB/MAR	106	58	55%	10	9%	6	6%	8	8%	0	0%	24	23%	21
APR	62	29	47%	7	11%	5	8%	4	6%	3	5%	14	23%	13
MAY	72	38	53%	12	17%	5	7%	10	14%	2	3%	5	7%	12
JUN	58	29	50%	11	19%	6	10%	5	9%	5	9%	2	3%	15
JUL	68	24	35%	31	46%	3	4%	3	4%	2	3%	5	7%	12
AUG	82	50	61%	17	21%	3	4%	10	12%	0	0%	2	2%	16
SEP	93	60	65%	18	19%	5	5%	5	5%	3	3%	2	2%	18
OCT	97	57	59%	4	4%	12	12%	15	15%	4	4%	5	5%	31
NOV	74	39	53%	11	15%	9	12%	12	16%	0	0%	3	4%	18
DEC	66	49	74%	6	9%	7	11%	1	2%	0	0%	3	5%	9
JAN	93	51	55%	11	12%	14	15%	14	15%	1	1%	2	2%	13
FEB	78	52	67%	7	9%	11	14%	7	9%	1	1%	0	0%	5
MAR	66	42	64%	9	14%	10	15%	4	6%	0	0%	1	2%	9
APR	84	42	50%	5	6%	17	20%	17	20%	2	2%	1	1%	13
MAY	103	58	56%	11	11%	15	15%	13	13%	0	0%	6	6%	16
JUN	96	48	50%	14	15%	23	24%	8	8%	0	0%	3	3%	15
JUL	62	35	56%	9	15%	8	13%	9	15%	0	0%	1	2%	5
AUG	72	41	57%	5	7%	16	22%	5	7%	2	3%	3	4%	7
SEP	93	71	76%	9	10%	6	6%	3	3%	1	1%	3	3%	7

TOTAL ALERT VALUES

MEAN 80

% UNABLE TO COMPLETE PROCESS

MEAN 0.03

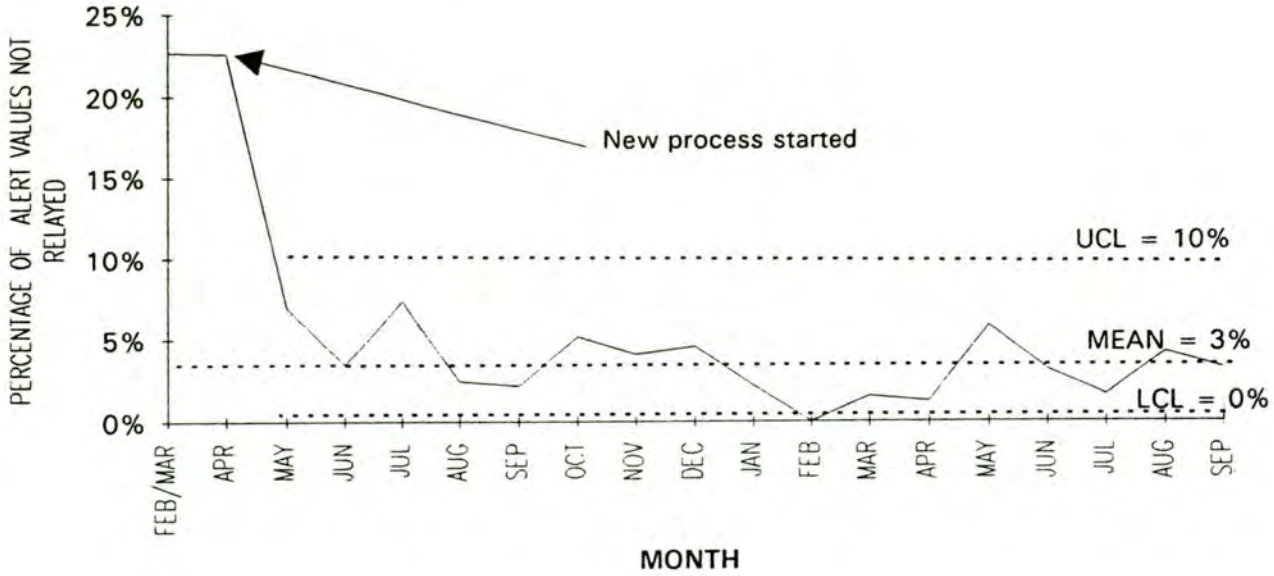
0.0004

Sd 0.0205

UCL 0.0961 (=10%)

LCL -0.027 (= -3% = 0%)

Figure 7A: Control Chart (p) Showing The Percentage of Times the Relay Process was not Completed for Different Months



These are the control limits and this also tells us that the process is within statistical control. Up till now, we can see that we have achieved a 20% improvement in the quality indicator that we have looked at. However, the strength of using quality management methodology is that it provides an explicit understanding of processes as a whole. It emphasizes continuous monitoring of these processes and it sets in motion a team that is capable of continuously improving the process. This team became very knowledgeable about the process and they observed a tendency for the alert values relayed to the nurses to increase. So they went back and looked at these alert values.

Looking again at the data set, I've highlighted the values that I'm talking about (See Figure 6B). If you look above and above the highlighting and in the highlighted area, you can see that the highlighted area is showing an increase in the percentage and the number of alert values that are being relayed. It was decided to investigate these figures. Using the same data set, the 148 alert values that I highlighted in the previous chart, we can see the hematology-oncology clinic line (See Figure 8). This is a stratification firstly by type of test - routine and stat - and secondly by type of clinic. We can see from here that the emergency ward was ordering its tests mainly as stat tests whereas the rest of the clinics were ordering their tests as routine except for the hematology-oncology clinic. This was also displayed in a better form on a bar chart (See Figures 9 and 9A).

The bar chart is showing us two types of columns. The black column shows us the tests that are ordered as routine and the white column is the stat. The white column for the emergency ward is much more than the black column. For the rest of the clinics, except for the hematology-oncology clinic, predominately the tests were being ordered as routine. In other words, 81% of alert values that were being related to the nurses were being ordered as routine. The fact that the emergency ward was ordering 83% of its tests as stat was only intuitively expected. However, in contrast with most other clinics, hematology-oncology was ordering just under half of its tests as stat. Now this was both interesting and unexpected. An investigation of this phenomenon showed that these results pertained to patients who were coming in during the daytime for chemotherapy. The tests were ordered as stat so that the results could be available before the patients went home at the end of their chemotherapy session. In many instances, these results were expected to be high and to naturally be in the alert value range. However, the fact that these results were ordered as stat and came out to be in the alert value range did not necessarily mean that immediate action was required. This also meant that the

Figure 6B: Outpatient Alert Value Relay, 1991-1992

MONTH	TOTAL ALERT VALUES	RESULTS RELAYED TO												GREATER THAN TWO CALLS NEEDED
		MD		MD ON CALL		RN		SECRETARY		E / W		UNABLE TO COMPLETE PROCESS		
		#	%	#	%	#	%	#	%	#	%	#	%	
FEB/MAR	106	58	55%	10	9%	6	6%	8	8%	0	0%	24	23%	21
APR	62	29	47%	7	11%	5	8%	4	6%	3	5%	14	23%	13
MAY	72	38	53%	12	17%	5	7%	10	14%	2	3%	5	7%	12
JUN	58	29	50%	11	19%	6	10%	5	9%	5	9%	2	3%	15
JUL	68	24	35%	31	46%	3	4%	3	4%	2	3%	5	7%	12
AUG	82	50	61%	17	21%	3	4%	10	12%	0	0%	2	2%	16
SEP	93	60	65%	18	19%	5	5%	5	5%	3	3%	2	2%	18
OCT	97	57	59%	4	4%	12	12%	15	15%	4	4%	5	5%	31
NOV	74	39	53%	11	15%	9	12%	12	16%	0	0%	3	4%	18
DEC	66	49	74%	6	9%	7	11%	1	2%	0	0%	3	5%	9
JAN	93	51	55%	11	12%	14	15%	14	15%	1	1%	2	2%	13
FEB	78	52	67%	7	9%	11	14%	7	9%	1	1%	0	0%	5
MAR	66	42	64%	9	14%	10	15%	4	6%	0	0%	1	2%	9
APR	84	42	50%	5	6%	17	20%	17	20%	2	2%	1	1%	13
MAY	103	58	56%	11	11%	15	15%	13	13%	0	0%	6	6%	16
JUN	96	48	50%	14	15%	23	24%	8	8%	0	0%	3	3%	15
JUL	62	35	56%	9	15%	8	13%	9	15%	0	0%	1	2%	5
AUG	72	41	57%	5	7%	16	22%	5	7%	2	3%	3	4%	7
SEP	93	71	76%	9	10%	6	6%	3	3%	1	1%	3	3%	7
						148								

Figure 8: Outpatient Alert Values Relayed to Nurses between October 1991-September 1992

CLINIC	TOTAL		ROUTINE		STAT	
	#	% of grand total	#	% of total	#	% of total
BMG	45	30%	38	84%	7	16%
HEM/ONC	38	25%	23	61%	15	39%
BIMA	36	24%	35	97%	1	3%
ORTH	15	10%	14	93%	1	7%
OTHER	8	5%	8	100%	0	0%
E/W	6	4%	1	17%	5	83%
GRAND TOTAL	148					

BMG Brigham Medical Group
BIMA Brigham Internal Medicine Associates

Figure 9: Outpatient Alert Values Ordered as Routine and Stat for Different Departments

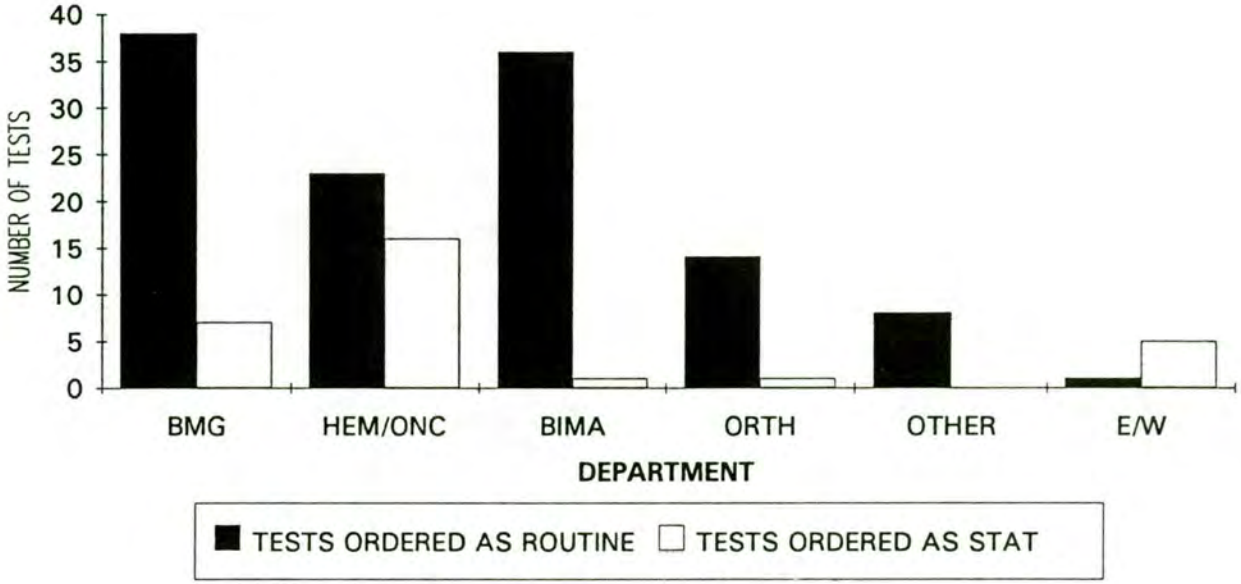
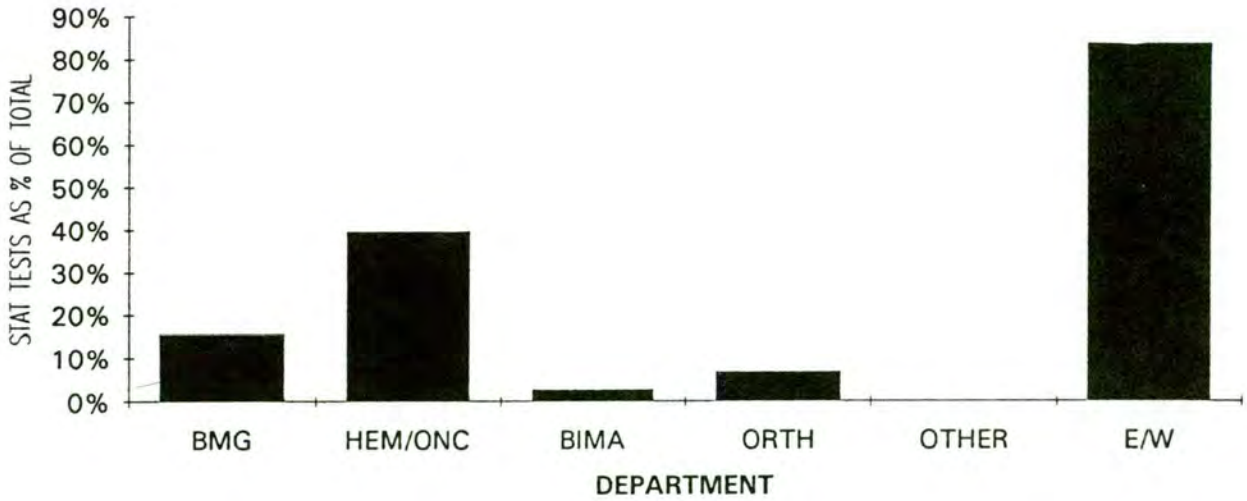


Figure 9A: Outpatient Alert Values Ordered as Stat as Percentage of Total Tests Ordered for Different Departments for the Alert Values Relayed to the Nurses, October 1991-September 1992



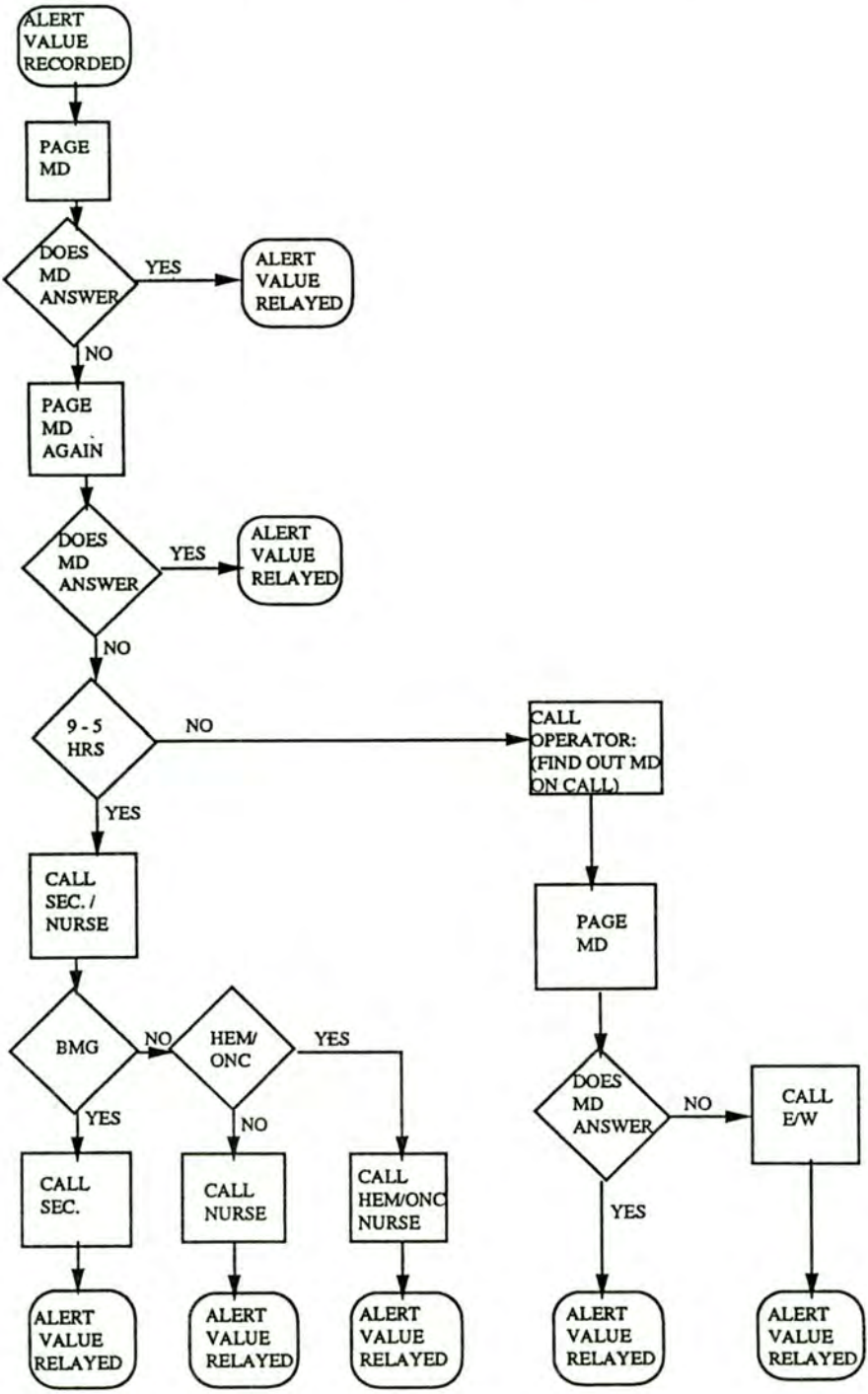
laboratory technicians could well relay the test results to the nurse in charge which was taking place in a disorganized fashion anyway.

The last step of the process is A, act, adopt or modify the plan. The process was modified in accordance with the data that were collected. Again, what we did was reengineer the process such that this category of alert values, in case of failure to alert the physician, could be relayed to the nurse in charge in the hematology-oncology clinic. The result is a revised flow chart (See Figure 10).

The revised flow chart starts off similarly to the originals: The alert value being recorded sets off the process. There are two attempts at paging the physician. Then, depending on the time of day - whether it is regular hours or whether it is after regular hours - two different processes occur. During regular hours, we can see that there has been a modification: in the hematology-oncology clinic, the results are relayed directly to the nurse in case the physician is not found. This is the final flow chart of the process.

Today the team still continues to monitor its work in this process.

Figure 10: Revised Process for Relaying Alert Values



Session V . . . . . .

Can TQM Be Applied in Middle Eastern Medical Centers?

Aleya El-Mohandes: There are three questions that I hope you will address during the discussion which is about to take place. Is it applicable in our situation? What are the problems? What will be easy in the application process and what will be more difficult? I hope, that you will be active participants rather than just listening to the presenters. Our panel is composed of Mr. Paul Plsek, Dr. Donald Berwick, and Dr. William Jackman. Dr. Jackman will first give us a short presentation on quality control mechanisms related to his experiences in the Middle East where he has worked in Jordan and Egypt.

William Jackman: I would like to share some experiences that are slightly different from the total quality management concept as it has been presented today. The differences reflect adaptations that were made in response to the nature of health care systems in some of the countries that we were working in.

The Center for Human Services is a non-profit, private organization in Bethesda, Maryland near Washington, D.C. The Quality Assurance Project, however, which comes under the Center for Human Services, is a five-year USAID sponsored and funded project. It works in developing countries with concepts that might be included under the rubric of quality assurance or quality improvement. The focus, however, is a little broader than in TQM. For example, in some places where we are, the hospitals or the health care systems, are in need of basic things such as simply improving supervision. It may be the supervision of health care extenders or it may be the supervision of compliance with an algorithm developed by the World Health Organization.

We focus on counseling and, in many cases, on that which leads to the failure of the outcome, namely the lack of compliance of the client or the patient; the inability to convey to the patient clearly what they need to do, like return for the second dose of an immunization.

We focus in many places on setting standards. In sophisticated hospitals in America, and I assume in many of the places where you are from, you have many standards. You probably have never thought about the need for standards or where they came from initially. But there are many health care systems, including some in the Middle East, in which there are no detectable standards. There are standards that are unwritten. There are covert standards that people

practice, but if you try to look for written standards as in a list of steps in a process or a procedure manual, you won't find them. Or in some cases, they have been created but they have never been disseminated. They are found on a shelf somewhere in the Ministry of Health or in the management offices of a hospital. Such standards are relatively valueless.

We deal with the ways you might communicate standards. Then once standards have been communicated, you need a system to monitor them. Dr. Berwick made the point this morning that we should focus on improving processes and not just inspecting. Several months ago, I was talking to Dr. Deming because there are a lot of people who feel now that if we are using TQM, we no longer need to inspect. Dr. Deming made it very clear to me that if you have a process that's capable of a perfect outcome, you still must randomly sample it because by virtue of variation in the world, how do you know you still have a perfect outcome. If you have a process that produces imperfect outcomes, you must sample the imperfect outcomes. After all, those imperfect outcomes are overhead that you don't need and if you can find a way to quantify the imperfect outcomes and then reduce them, you will cut down on your overhead and create a more efficient system.

If you have a system that has the capability of having a horrible outcome, and I would assume human death is a horrible outcome, then you must always look for the reasons behind the outcome. You must always look for the processes that may have contributed and sometimes it is not processes. Sometimes it is people. And you must do some kind of corrective action. So some type of inspection system must be built in. It would be very nice if it would be a kind of inspection system that when it does find a defect it would use it as food to feed into the process of improvement.

We work on developing systems, monitoring systems, process improvement and problem solving. We emphasize the bringing together of teams of people who know and understand the process, of understanding variation, of using where possible the tools of TQM that are so powerful whether they be flow charts or Ishikawas or run charts.

However, we're careful that using team process improvement is not the only means considered to solve a problem. Quality assurance is a term that is part of TQM. Quality assurance is a concept that we use in hospitals or clinics that are just developing. It simply points out that there is a part of quality that has to do with quality design and there are a number of ways that you might design something with quality. If no other way, trial and error. You do it the

first time and if it didn't work, you do it a different way and if it didn't work, you do it until it works. And then if it works, you've already made an improvement and then you might find other ways to improve it.

The second part of TQM is quality control. For 70 years, the quality control part of the TQM triangle has been the traditional QA that's existed throughout the hospital system in the United States. Sometimes when people get into Total Quality Management they would like to discard quality control because it has been misused: It has been used to tamper with systems, or go back and fire doctors or do punitive things to people like what happened to the workers in the red bead factory, when really it was the process that was inside the red bead box that needed to be improved. But nonetheless, in my experience in countries where they are developing their systems, there is a need for one or more of the aspects that's in the quality control box. If nothing more, than as an audit process to sample the processes in order to select which processes have the greatest probability of giving a good yield. Even though you can sit down and brainstorm about your processes and select one by multivoting or some other way without ever having any kind of data output, having the data output will help you focus on the clinical issues that are of the greatest concern.

The third area is quality improvement. There are a number of ways to promote improvement. The one which we're focusing on here is the team methodology of bringing people together. Someone from TQM, would say that TQM should be the large box that goes around all the concepts. Others would argue that TQM belongs in the quality improvement area as a methodology of improving. I think it can be one or the other depending on the circumstances of the hospital that you're in.

In Egypt, we are in collaboration with the Ministry of Health through the Cost Recovery for Health Project. This project has selected five hospitals, mostly in the Cairo area, in which they intend to improve the systems and the processes within the hospital so that people will be willing to pay for their health care. As it is now, in the public sector hospitals that are supported by the Ministry of Health, essentially there is no payment by anyone, even though sometimes there may be a very small fee to come into the compound. After discussions by the people working on the cost recovery project in Egypt, it was concluded that if you are going to have a successful cost recovery program in which patients do not object to picking up some responsibility for the cost, you must improve the quality of the health care that's in the hospitals. That's not any different anywhere else in the world. The motivations may be

a little different. In Egypt, it may be they would like the general population to share a little more of the cost burden. In the United States, it may be competition in which you must improve the quality in your hospital so that patients do not go to the hospital across town or somewhere else.

In Egypt we are working specifically in two hospitals. One is May 15 Hospital in the southern part of Cairo. Although it is only seven to ten years old, it has fifty years of weathering and lots of problems that need to be solved. It serves as an excellent pilot hospital where you can start from zero and see where improvements are made. The other hospital is El Kantara Gharb which is a brand new hospital in Ismailia on the Suez Canal. So in another sense, it is also a hospital in which we have a zero based area to study the implementation of quality techniques since there are no established patterns within the hospital.

We have conducted seminars with people at various levels in Egypt in which they have been made aware of some of the aspects of quality and improving quality. In our awareness seminars, we talk about various methodologies, planning for quality improvement, the importance of standards and setting standards, and training in the team model of process improvement.

They come together as a group and select whatever is appropriate for their country, for their hospital, for the ministry, for whatever it is they would like to improve. Even though they may not have a lot of hard data, they can look at the various clinical aspects and sometimes non-clinical aspects - the housekeeping functions or the hospital support functions - that they feel that they may be able to make improvements in and then they begin to develop teams.

To date they have a team that is working with infection control and a team that's working with a number of subtopics that they want to improve in the operating room. The pediatricians, the surgeons, the orthopedic surgeons and the OBGYN physicians collectively have come together in teams which are dealing with issues that are unique to their specialties. My understanding is that once the teams got started, and after overcoming a little bit of resistance - resistance perhaps because there was some reluctance to believe that it might make any difference - some teams have made some very dramatic differences. Dr. Asana Kalla who is here and who is the director of the program, has told me that now everybody in the hospital wants to be on a team because they see it as a channel for putting in their input and improving processes that have heretofore not been improvable.

I made a note to myself to divert here. There's one side issue that I want to explore - problem solving and process improving. In the twenty some odd countries that we have been in throughout the world, every one of them, to my knowledge, tends to look at this as a problem solving methodology. I have a problem with that because in TQM, the objective is meant to be process improving. The process you may want to improve may be a problem. In fact, it may be the problem that leads you into wanting to improve the process but if you only focus on problems, there are two risks. One risk is that you may have very important processes that are not problems, but that by looking at them and improving them, the yield will be infinitely greater than by improving some of your problems. Now these processes might not even be included if you look at TQM only as a problem solving process.

The second risk - and mostly what I'm speaking about are things that have happened - is that by focusing on problems, the focus tends to be on big problems, hard problems, tough problems, long-standing problems. In fact, the reason they may be problems is because they may not be processes or they may be processes that have so much variation and so many contingencies in them that they are not in a state in which the utilization of the tools that we have talked about or the methodology we've talked about can be effective. Usually if there are very serious problems, an immediate answer is wanted. If a couple of months of working on the hardest problem they've ever had passes with no results, people think that problem solving methodology and quality management is not effective. They become discouraged. So we would like to have a balance between problem solving, if you choose, and process improving, with a little more emphasis on process improving even though those processes may indeed be your problems.

In Jordan, we are collaborating with the Ministry of Health on two projects. One project is looking at the family health and family planning services. These are relatively well developed. The focus is looking at the processes per se, going in with a team approach and trying to improve those processes. These may be in the counseling of patients so that they have better understanding of what needs to be done in family planning or they may be in supervision. They may be in a number of areas but the focus is on improving processes, improving the yields.

A secondary objective is to leave behind the skills and knowledge of how to use the problem solving methodology in other processes or places because many people who work in family health and family planning are also involved in other areas of the health system in that country.

A second project was establishing a central structure for the Ministry of Health to develop the capacity for quality assurance. They have now established at the Ministry of Health level a permanent structure for QA responsibility. They are going to implement QA throughout the hospital system in the country. They are selecting a pilot hospital in the Salt District and what succeeds there will be expanded to the remainder of the country. The remaining things we do in terms of awareness and planning and monitoring are the same as for Egypt, but adapted to the needs of the country.

I've compiled a list of those things that we have encountered in our involvement in Jordan, Egypt and throughout the world that are supportive factors for people who want to do something to improve the quality of their health care systems (See Figure 1). I will mention a couple. Almost everywhere we've been, there is an increased awareness that there is a recipient of health care out there - customer, client, whatever you want to call it - and that the customers are more often than not, unhappy with what they are receiving. In fact, there are some countries in which health care receivers, the patients if you will, are so verbal about what they would like to have that they are not getting, that they even make statements that we'll get a new government if we do not do this. So customer input, client input, telling us that we need to do better on their behalf, is something that is universal and it is also something that is understood here in the Middle East.

A second factor that's everywhere and is a factor that we've always wrestled with is the fiscal imperatives demanding better utilization of the health care dollar. You simply have decreasing dollars and increasing demand in a sophisticated world in which there are far more expensive tools and far more expensive interventions. People live longer in all countries, even if the average age is 50 in one country and 84 somewhere else. It is still longer than it was before and it costs money. You've got to find some way to improve the output so that you get more for the dollar. There is worldwide awareness of the need for quality and interest in learning new ways to improve processes. I was at the International Society for Quality Assurance this spring in Maastricht, Netherlands. ISQUA focuses on a different part of the world each year and this year the focus was on Europe. Every European country got up and gave presentations of what they were doing on quality assurance. Almost without exception, it was TQM. It was bringing teams together to improve processes, setting standards, and monitoring processes. I don't think they mentioned TQM too often, but it is the methodology that they are using.

Figure 1: Supportive Factors

- *Increased awareness and demand by patients for improved health care*
- *Fiscal imperatives demanding better utilization of the health care dollar*
- *Worldwide awareness of the competitive need for quality*
- *Enthusiastic interest in learning new ways to improve processes*
- *Exposure to TQM and QA through conferences, consultants, USAid, WHO, World Bank, and others interested in quality*
- *Efforts of TQM/QA organizations - e.g. international society for quality assurance (ISQA)*
- *Physicians' natural inclination to improve health care for patients*
- *Current abundance and availability of health care literature focused on quality issues*
- *Examples of quality improvements completed by organizations already on quality journey*

It is also interesting that for the first time, 17 countries participated that would not otherwise have quality assurance developed to the point where they would participate in an international conference. In fact, Egypt was one of the countries that was there. There were five awards for presentations for what people are doing in quality assurance and two of the five awards were won by countries who were just starting their quality assurance programs. So the world community involved in quality assurance/quality management is growing rapidly. And incidentally, there was a pre-conference and 12 people from the newly independent states of the ex-Soviet Union were there. They want to be involved in quality assurance and quality management principles that are being talked about worldwide.

In today's world you have to be really isolated to not be exposed to some variation of quality and methods of improving quality. It is clearly in the world literature and there are many examples of excellent things that have been done that should help motivate people. I compiled a second list of some of the impediments to TQM (See Figure 2). In many places we have gone through an exercise of identifying the things that will facilitate and the things that will impede TQM. Almost always if you're brand new in the quality journey, the list of things that will facilitate are hard to think of and usually short and the list of things that are the reasons not do it, is relatively easy to acquire and relatively long. But indeed if you analyze the things that are on those two lists you may well find that only one or two of the enhancers, like the need for cost containment or the need to rectify deaths and bad health care, so outweigh the impeders in substance that they clearly indicate that you should enter onto a quality journey.

I am not going to read all those that are on the list and you certainly will have others. I think you should go through an exercise where you identify the things that are going to be impediments to improving any kind of quality process and when you identify them, you should develop some plan to minimize their impact while you're maximizing the impact of the things that will help you in the quality plan.

There are a couple of them that I want to mention because they are so universal. Everywhere we've gone, people ask, "Why should we start a quality improvement journey when we have no money or no resources or no tools or no building or not enough doctors or not enough nurses?" This is particularly true in some of the developing and outlying health care systems. Their initial resistance was how can we do quality improvement until we have more resources. But in every single case, as in fact Don mentioned this morning, I

Figure 2: Limiting Factors

- *"Feeling" -- no reason to try improvement until we have more money, people, and other resources*
- *Immature or incomplete hospital based quality assurance activities*
- *Inadequately developed record keeping systems*
- *Limited clinical data bases*
- *Lack of skilled facilitators, coaches, consultants*
- *Management resistance to 'empowering' workers to make improvements*
- *Staff unfamiliarity and fear of being empowered*
- *Lack of MOH or management commitment*
- *Vertical non-communicative organizational structures leading to restricted information sharing*
- *Lack of training resources and reluctance to allow staff time to train*
- *Focusing on administrative/hotel functions for improvement and avoiding clinical issues*
- *Attempting to improve too large a process or too difficult a problem with initial TQM/QA efforts*
- *Failure to identify specific qualities or a process to improve*

believe that you can take what you have, no matter how little it is, and find processes that you can improve. If nothing more, it will improve the moral of the people working, and often will have dramatic changes on the amount of health care that can be delivered with those limited resources.

I know of one very well-funded hospital in the States which had an internal audit. The internal audit was going to flunk them and management came to the government, to their sponsor, and insisted that they needed more resources. And indeed in one year they got millions of dollars more. And yet with all those increases in resources, one year later when the auditor came back, not one single indicator had improved by more than one percent. The moral to me was if you have processes and your processes are relatively ineffective or inefficient, if you try to solve the problems by buying more processes, you simply have more poor processes. And I suspect that that was one of the things that happened in that hospital.

Another problem we found in the field is that in many places, there's no QA at all. Now, you might argue that this is good because it gives you a chance to start out with pure TQM and improve processes. However, if there is no QA, no monitoring, no standards, then you have no data. There is no data base for clinical processes to facilitate decisions about which processes you would like to improve. Then sometimes you will select anecdotally, or select when you brainstorm, processes you want to improve that are not a problem, or are relatively less of a problem than some of the others might be.

I would now like you to take a few minutes and turn to someone next to you and share your ideas about what in your own organization is going to be a significant impeder, something that will block what you might want to do, and what will be an enhancer.

Donald Berwick: The floor is now open for questions. What do you think represents an impediment to the system of approach that Paul and Bill and I have been talking about through the day and what facilitates it?

Question: I am the director of nursing at the Augusta Victoria Hospital in Jerusalem. It is a hospital run by the Lutheran World Federation in cooperation with UNRA. We have a very open system and my director would be glad to see TQM applied. But what hinders me is the rest of the teams. I'm not the only director in the organization. I've got the medical team. I've got other units. If we don't work together on implementing the total quality

management, and I go ahead on my own as a director of nursing, then this will create conflicts rather than encouraging the total quality management.

Donald Berwick: I would like to clarify. The concern you have is that among your peers, meaning other directors at your level, you might begin to stand out as different in your approach and that would be uncomfortable for you? It would create conflicts. What kind of conflicts would you anticipate?

Response: The nursing department works hand in hand with doctors, with the X-ray department, with the lab. They don't want to implement TQM because we still don't know much about it. So, if the nursing department goes ahead with TQM on its own, it will definitely be a failure. I'm sure that the managers in the organization, the top management will allow me as a director of nursing to start it, but I'd rather do it with the rest of the team, with the rest of the directors. So maybe we should first start by making the rest of the managers in the organization understand the concept of total quality management and then do it all together.

Paul Plsek: I think, in principle, that the notion of let's work together as a team and let's all move forward at the same pace is an important thing to say at the very beginning. But it is also important to recognize that everyone may not move forward at the same pace. Unfortunately, you may end up moving as slow as the slowest person or the slowest department or the one that is the last to want to do these things. I think it works well when an organization declares that it would like to do these things organization-wide, and then if I can go back to what I was saying earlier, in that preparation and practice phase, pick just a few things that you can work on. Pick one or two of the directors that agree with you already and are ready to begin doing the work so that you can have a success. One of the reasons why people don't want to get started is because they don't quite understand what "it" is. They'd like to see a demonstration of it. They'd like to know what you're talking about. Find a couple of directors that are willing to work with you in the beginning. Be open to all the rest of them to say we are sharing information. We are not trying to do anything behind closed doors. We have chosen these few areas to begin to see how it works and we will advise you of our progress and our success as we move forward.

William Jackman: In the United States I was working with 30 hospitals at one time trying to implement TQM. The ideal situation is when senior management buys in from the very beginning and encourages everybody. If you have an individual department and you want to do it, there are two things that you need

to be aware of. Number one, you are a little mini-business, located in a bigger business, namely, the hospital. There's nothing to stop you from looking at your business, the nursing service if that's what it is, and improving only those processes that are contained within this service. You will learn from the process itself and you will make a lot of improvements. Other departments will want to join in and it will begin to spread out. George Washington University in Washington, D.C. had no support from senior management. Only a few people in different departments started it with a great deal of frustration but they had some big successes. Once those successes were shared with other people, the other departments started it. Finally, so many departments were doing quality improvement that senior management said I wonder what this is and they finally endorsed it. Now they are all doing it. I would proceed even if it is only one department.

Question: I'm the director of nursing in the Gaza health services. You can implement something with little resources but if your staff is not motivated this is a big problem. We have an organization with about 700 nurses; limited resources restrict their continuing education, and so their motivation. Some of them have worked for 30 years without any motivation. So I believe that we could implement TQM here in the Middle East but there are many obstacles, among it the resources. Without motivation, maybe they will do it one time for my sake, the second time, the third time. Then they will be fed up. They will be frustrated. They will not listen to me.

William Jackman: I know of one hospital here in the Middle East and I don't think that anyone could possibly have fewer resources than this hospital. The total amount of money, as I understood it, for maintenance and repair for a 300-bed hospital, the total amount of money that was allotted, was $500 a year. I'm not sure what it costs to paint but I doubt if you could paint more than two rooms. They have undertaken this TQM process. In fact it was the hospital that I was referring to, at Fifteen May, and I hope Dr. Hassan you don't mind my mentioning it. Fifteen May has no resources. It was in an earthquake three or four years ago and nothing has been repaired. It has ten elevators and none work, or at least the last time I was there none worked. And yet they started out on processes they could work within the OR and clinical areas and it is catching on like fire. I don't think that the administrator of the hospital or Dr. Hassan has to sell anything.

Donald Berwick: One other idea I can offer you is that as you begin to prioritize opportunities to improve, you'll find many more opportunities than you will have the ability to handle. For example, you might put a very high

priority on improvement efforts that we would call time generators or resource generators or waste reduction. These are projects which if carried out would release time for other opportunities. At that point, it becomes important to make sure that when the project yields that new time or that new resource that you reinvest that resource again in improvements so that the improvement can build on itself. That's done in wealthy institutions that try quality improvement. It sounds even more important as a priority in institutions that are resource poor.

Question: I understood total quality management as a process which makes costs go down and quality go up. I wanted to respond to the question: Can total quality management be applied in Middle Eastern medical centers or not? The answer is 'yes' but there are restrictions in Middle Eastern countries. First of all, the style of management in Middle Eastern countries is more authoritarian. We are a little bit far, I'm sorry to say, from participative management. This is one thing. Investment in people is labeled here as a loss of money, rather than capital. I wanted to remind my colleague here that investing in people is capital rather than a loss of money. Number three, commitment from all parties to the principle of total quality management, especially top management, is crucial. Again here, we have a problem with the top management who are often doctors. We have the best physicians who are acting as administrators but in the end of the day, they are achieving neither their medical proficiency nor management success. Again here, the attachment to the principle of total quality management needs management feedback and if our top management does not provide this feedback, how can we apply total quality management principles and strategies?

Paul Plsek: If I can just comment on that. I want to point out that the comment that you made about the style of management in the Middle East being, I think your words were authoritarian and paternalistic, has been made to me by a number of individuals in this audience at the break, in the halls or wherever else. What's amazing about the comment and the way that it has come to me is often there is a sense that this person thinks he is the only person who recognizes this. I wish, the commenter often says, I wish that other people understood how authoritarian or paternalistic our management styles are. I don't know whether your management styles are authoritarian or paternalistic. But what I want to say is that many of you think the same thing and you think you're the only one who notices but in fact maybe all of you notice. We have a story that is often told about the emperor who has no clothes but no one will tell him. The emperor walks around with no clothes but everyone says oh, the emperor is great, the emperor is great and finally a

small boy raises his hand and says, "I'm sorry, you have no clothes on. You're naked." Oh my gosh, what a scandal. But in fact everybody knew that the emperor was naked. I want you to spend some time with each other during this conference and afterwards realizing that what you think you are the only one who sees, everyone sees. Now you can get on with saying what can we do about it? What can we do that is different? There is a social support in this room that you may not have recognized.

Donald Berwick: That's a very interesting comment. I've heard a slightly different twist on this. Leaders in the room have stopped me in the hall and said: "We're pretty authoritarian but the problem isn't that we want to be authoritarian. It is that if we turn to the work force, to the worker and say, 'Please help, we want to know your ideas. I don't know the answer maybe you do', the work force will not be responsive. They expect us to have the answer. It is not that I want to control. It's that people expect me to have the answer."

This is very interesting. I would love to know if that's another shared assumption. If it is true, then you have a very interesting and special challenge, namely, what are all the ways that you could work as leaders to increase the confidence of the people who work for your organization, even at the very lowest levels, that they have something to offer. I wonder if any of you have thought about that or perhaps even had experiences where a junior person or a low status employee has come to realize that they can help, that they do have something to contribute and that it is not your failure if they help you.

Question: I am from Egypt. I think this problem has many aspects on both sides, on the senior management side and on the subordinate side. Some of its roots goes back to the education in the school. The educational system in the Middle East in general, and I'm talking about Egypt in particular, has been a kind of one-way communication, where you usually have a teacher who transfers knowledge to the students in the class. So this kind of education over years creates an obedient type of person. I will talk about one experience I had at the beginning of my trips to the United States. I found American students sitting on their chairs, extending their legs, and disputing and arguing with their professors. My first impression was that they were being impolite. Why are they sitting like this and acting like this. It took me a while to realize that the educational system was different.

Paul Plsek: If the educational system is as you described it and yet, you have managed to achieve as much as you have as a nation, think of the potential of

what you could do. I look forward to watching the Middle East in the next ten years because there is a tremendous amount of potential.

Speeches from the Gala Dinner

Itamar Shalit: I'm glad to welcome you tonight to the gala dinner of the TQM conference. Many organizations and institutions have helped us in organizing this unique conference. However, I would like to single out two of the most devoted people who have devoted their time and energy to the success of this conference. First of all, Mr. Shmuel Reznikovich who is the Deputy Director of Rambam Hospital and a graduate of the Institute. And also Meira Aboulafia of the JDC-Brookdale who has devoted most of her time in the last few months to the success of the conference.

During this evening we will be addressed by representatives of three of the organizations who have been actively involved in organizing this conference and have contributed significantly to the success of this evening. After the main course, we'll be privileged to have with us Prof. Mitchell Rabkin, the President of Beth Israel Hospital in Boston. He will be the keynote speaker of this evening and will share with us his ideas about a workable health care system, theory and practice. Meanwhile I hope all of us will have an enjoyable evening and a unique opportunity to meet each other in a less formal environment.

I'd like to start and invite some of our speakers. The first speaker tonight is the President of our Alumni Association, Dr. Sameh El Saharty from Egypt.

Sameh El Saharty: Dear honorable and distinguished guests. It gives me great pleasure to be present here today and to welcome you to this unique event organized by the Alumni Society under the auspices of the Institute for Social and Economic Policy in the Middle East at Harvard University. Established in Cairo in January, 1993, the Alumni Society was formed for graduates of the Institute either from the Kennedy School of Government with a Master's Degree in Public Administration or from the School of Public Health with a Master's in International Health at Harvard University.

The Alumni Society constitutes a network of human service and health care professionals from throughout the Middle East. The objective of our organization is to establish professional linkages across the region, to enhance communications and to promote regional cooperation in the area of health and social welfare. The Alumni Society was structured to reflect its operations. It

consists of an Executive Committee chaired by the President and three subcommittees: the Project Development Committee, the Fellowship Recruitment Committee and the Public Relations Committee.

This conference on the Implementation of Total Quality Management in Medical Centers is our first organized effort. Even though it is focused on quality in medical centers, we consider it the first milestone on the road that leads to a better quality of life for all people in this region. I would like to reiterate the fact that this conference could not have been possible without the contribution of the supporters, the presenters and of course, the participants.

On behalf of the Alumni Society, I thank you all and I hope that this conference marks a genuine start of our sincere efforts to work together and to cooperate for the welfare of our people in the region. Thank you.

Itamar Shalit: Thank you Dr. Saharty. I would like to invite our next speaker, the distinguished chairman of the Health Policy Advisory Committee of the JDC-Brookdale Institute, Dr. Martin Cherkasky.

Martin Cherkasky: Good evening everybody. I'm here to extend the greetings and welcome from the Board of the AJJDC in New York and to convey their pleasure at the creation and activities of this extraordinary conference. As you can tell from looking at me, I've lived a long life and I've attended hundreds of conferences, including a lot of conferences about hospital management. Never did I fly across the Atlantic to a conference with more enthusiasm and more anticipation than this one because I believe, as the last speaker said, that this is going to be the beginning, hopefully, of a great new day. During the next few days, we have the opportunity to demonstrate the kind of practical cooperation, the need for which has been great in the Middle East for a very long time. I want to express our thanks to the Alumni Society of Harvard University's Institute for Social and Economic Policy in the Middle East. This group of health care and human service professionals from the public sector of Middle Eastern countries has done a remarkable job in bringing together high ranking Palestinian, Israeli, Egyptian and other professionals. They view this conference, as just one step in a long process of collaboration, the end result of which will be providing decent and excellent health care for all the people in the Middle East.

In welcoming you, I represent the American Jewish Joint Distribution Committee. It is a nonprofit private organization that was created about 80 years ago during the time of the First World War, in response to the needs of

communities all over Europe that were dislocated, including many Jewish communities. We have worked, as you know, very intimately with the Alumni Association in helping to put this remarkable activity together. The Joint is a nonpolitical, charitable organization providing assistance for those in need in 55 countries around the world. We have a long history of cooperation with all sorts of other groups, not only Jewish groups. Our activities are international in scope and include work in Somalia, Turkey, North Africa, and that destroyed city of Sarajevo where there's virtually no Jewish population. We now operate two pharmacies in Sarajevo, keeping them fully supplied with medications and care for 60,000 people in that city, representing the Moslems and Christians in that area.

JDC has always been committed to providing the best possible access to health care and we have a very distinguished group of physicians on our Advisory Board. We look forward to sharing this expertise with the Alumni Association in future projects.

In all societies, those of us whose professional concern is health, know how complex are the conditions upon which health depends. We talk about doctor's care and hospital care but it is much, much broader than that. There's food and housing and clean water and jobs and stability and security. A population that doesn't have these things cannot be described as a population that has health and, of course, where you have conflict, particularly armed conflict, that is the antithesis of a healthy environment.

I'm sure that everybody in this audience has multiple reasons why you are here today, including professional and other kinds of goals. I am one of them. I am here today for something that is even more important, as far as I'm concerned, than the delivery of health care. I'm here because of the fact that peace is the sine qua non of reasonable human existence. There are all kinds of dangers and threats that we all face but threats that represent one man's hand against another are unacceptable. I've been coming to this part of the world for 40 years and this is what I dreamed of, that together, those of us who have a common interest in health and health care and humanity will be able to work together and really produce what this part of the world needs. Your presence here also indicates that all of you believe in peaceful collaboration in the work of creating a healthy environment for all of our peoples.

You know that people will sign treaties and make arrangements but peace will be on the ground. It will be how well the Palestinian population is going to

live and enjoy the fruits of independence and decent health care and decent economic opportunities. And we in JDC have developed enormous expertise over the years and we want to be part of that process. Thank you very much.

Itamar Shalit: Thank you Dr. Cherkasky. Our third speaker is a distinguished member of the Board of Directors of the Institute for Social and Economic Policy in the Middle East, Dr. David Habif.

David Habif: Thank you very much. To the alumni and distinguished guests here, welcome. As a representative of the Institute Board and as the Chairman of the Alumni Association Committee, I'd like to commend the alumni for the very fine conference that is being put on here this week. As background for some of you who may not be aware of it, the Fellowship Program at the Institute started some six years ago and has approximately 50 alumni in the Middle East area, with seven more currently at Harvard. This has represented a cost or really I should say an investment of some 2.5 million dollars. The program is now expanding to include all of the Middle East and indeed Gulf countries.

I and my colleagues on the Board have great admiration for these men and women of the Alumni Association, not only because it was not so easy for them back when tensions were greater, to come from their respective areas to live as well as to study together at Harvard, but also because they and their respective political leaders or in some cases sponsors, I think, were visionaries. They saw that they were not just engaging in an education at the Institute but they were sowing some of the important seeds of peace. We discussed in those days that the politicians would make the peace but the people would have to make it last and for that an infrastructure would be required. The Board members and the alumni foresaw the events of September 13th but then what? Well, "then what" has become "now" and the Alumni Association represents a human infrastructure for peace. It is, to the best of my knowledge, one of the few, if not the only, multinational local organization that is in place to take advantage of the September 13th handshake, a group that includes Israelis, Egyptians and Palestinians and excludes no one.

So I am here to bring greetings from the Board and to show our support, that is to harness the energy of the Board which is really an unusual group of Moslems, Christians and Jews, to support this human Middle East network and to assist in the development of the programs and projects of which this conference represents the first fulfillment of that vision. So I would say to the alumni that we are very proud of you and keep up the fine work. Thank you.

Itamar Shalit: Ladies and gentlemen, I am pleased and honored to introduce our keynote speaker, Prof. Mitchell Rabkin.

A Workable Health Care System: Theory and Practice

Mitchell Rabkin: Thank you very much. I feel very privileged to have the opportunity to be here at the start of what I think is something very important. I was asked to depart from the subject of TQM to some extent to give you a little breather. I was asked a much simpler question. I was asked: If you could start from scratch how would you build a health care system that worked? If I knew that, I suspect I would be speaking at meetings all year round. So while I can't quite do that, I can share some thoughts with you about what might make a successful health care system.

As you think about it, in many respects, it is a wonderful time to be in health care. Through the unfolding insights of molecular biology, we're uncovering new ways of understanding at the genetic level; health and disease and certainly new power for good will emerge from these scientific understandings. But there is more to our societal mission than the uncovering of new biomedical knowledge and its application and that relates, of course, to the systems by which we purchase and pay for and deliver care. Here, despite the many differences in our various cultures or resources or histories, we are much more together than we are different. We're all seeking improved ways to care for our people. We are all concerned about cost. We're all challenged by the complexity of our task. Now it wouldn't be appropriate for me to stand here among this audience of distinguished experts and say what you should do in your hospitals and cities and nations for there certainly is no easy prescription. Instead, though, I will take a few minutes to offer some insights about health care in the United States as I see it and to present a few ideas which may be useful examples from which you might develop concepts more relevant to your own specific situations. I'm not bringing prescriptions on what should be done. My comments will actually emphasize only one very fundamental point and that is that *actions have consequences* and whatever actions we take must be considered in terms of the system consequences that follow.

A major requirement in successfully developing and then in implementing any new action is to conceive of the consequences that may likely develop as a result, and how these consequences may influence the system and its delivery of the end result you wanted to achieve through that action. So I want to speak about the way we've paid for health care in America, the consequences that

followed, and offer some thoughts about new ways of paying that would have different consequences, consequences that might be better in the long term for the societal goals that we seek.

Now in the United States, we no longer ask whether health care costs can be controlled. We're finally at the point of saying how and when. Nobody disagrees that our health care system is costing too much for the outcomes that we're experiencing and we're starting to ask why. Something inherent in our current system has led to these excessive and spiralling costs. Neither repair nor revision is being called for. Now we're calling for redesign. We need to move in the U.S. towards agreement on policy directions and the implementation of models consistent with new policy. Now you, too, may feel the same challenge but the policy development ideally should follow the inquiry of possible consequences from any actions that are offered to solve the problem.

Why are health care costs so high in the United States? I believe it is largely a matter of the consequences of the way we pay for care. Neither patients nor the providers of care in the U.S. have had much reason to seek the most economic course of care. Typically providers, doctors and hospitals have been paid more for delivering more care, and patients have seen little reason to dissuade the provider from scheduling more visits and more tests. Individuals themselves are rarely direct payers of care and few of us are bargain hunters when it comes to health. When faced with potential danger to life, our instinct is to say, "Spare no expense", especially when it appears that somebody else is picking up the tab.

For the future, merely setting a global budget, a limit, will not alone change the behavior of the insurers of care or the providers or the patients. The threat of decreasing reimbursement next year is not likely to influence decisions made by doctors or patients on an individual basis. Knowing that something terrible will happen if costs increase nationwide is simply too abstract and out of control of any individual in such a system to affect behavior significantly. I think we saw this morning in the red bead game that the threat of fewer resources is not a way to run the business of medicine and still meet the goals of quality and reasonable cost, goals that are basic for any successful business.

Well, there are major lessons, I think, that all of us in medicine can learn from business. The first lesson is, without accountability for expenditures the notion of budgets and cost control are unrealistic. The second issue is how the money is collected to pay for health care, whether it is one payer or many, the

employer or the employee, or the government. Thirdly, because economic incentives critically shape both the delivery of care and its ultimate cost, an even more important set of issues is how health care may be paid for and what are the economic incentives that derive from that system of payment.

Now I would submit that successful reform in payment for health care must build in both accountability and a set of appropriate economic incentives that are targeted toward the various participants - the doctors, hospitals, patients and those who pay. And the incentives must be coordinated carefully to create a workable system that's not only prudent in expenditure but also one that's gratifying to patients and gratifying to those who provide their care.

Let's look at the United States for a moment to see how we have met those standards. Over the past half century, American medicine has seen unprecedented scientific advances but an equally unprecedented rise in health care costs and a failure to include coverage and access for millions of Americans. Blame can be directed at fee for service payments to doctors and payment to hospitals through cost reimbursement. Both of these, fee for service to doctors and cost reimbursement to hospitals contain economic incentives that could not have been better designed to lead to inflation.

But you can't just blame the doctors and the hospitals. The blame belongs everywhere since the Government and business and patients and insurers also brought into this system. But the issue isn't blame; the issue must be where do we go from here to shape a new direction that works. It is important to recognize that today's problems stem from the way that health care practice was influenced by the economic incentives inherent in the system's fee for service and cost reimbursement. What have we done about it? Recent efforts at cost control in the U.S., particularly the limitation of fees to physicians and of payments to hospitals, restriction of visits to doctors, and restriction of admissions to hospitals, have not met with the overall success desired because they haven't altered sufficiently the economic incentives. Far too little control of costs have been achieved while at the same time, a horde of administrators, monitors and auditors assigned to micro-managing have been created in the offices of both the providers of care and those who pay for care, and at no small expense either.

Where cost control has been more effective is where a single new ingredient has been introduced. What is that single new ingredient? It is nothing exotic. It is the critical component in the sound running of any business. It is accountability. Traditionally, you see, neither the patient nor the doctor,

neither the hospital nor the insurer has been accountable for the overall commitment of resources in diagnosis and treatment. Now the development of managed care programs in the U.S. has introduced some accountability into health care budgets, most effectively in health maintenance organizations, such as Kaiser Permanente. But not all Americans are joining up. In Massachusetts, about a third of the people are in HMOs. In California, a third are in HMOs but in most other states, far fewer. Some people are concerned about freedom of choice of their doctor. Others are wary of the responsiveness of service from the patient's viewpoint. These are cultural characteristics that may vary, of course, from country to country.

Furthermore, not all doctors see this kind of HMO as their ideal career opportunity. They may be put off by possible restrictions on the exercise of their best professional judgement in the interests of their patients or their freedom to choose their specialists for consultation or referral. And furthermore, to the extent that the administrative managers of an HMO are distant from their true customers, from the patients, the danger exists that the perceived needs of patients are neglected and, as any entrepreneur knows, neglecting the needs of the customers is no way to develop a business.

So we've not done so well in the U.S. What might be the basic requirements for a satisfactory system of payment for care? The first would be defined accountability for expenditures with both reasonable payments and reasonable cost control. The second would be motivation of the providers of health care to meet the patients' needs - both the physiological requirements and the perceived needs of patients, what they feel they need, with demonstrably high quality.

The third, I think, should be financial risk and reward, respectively, for over or under expenditure and also reasonable reward or risk for satisfying or not satisfying the patients. There also should be reasonable freedom of choice on the part of the patient in a manner that will impact on any provider who poorly meets the patient's needs. So if the patient doesn't feel you meet his or her needs, the patient can make another choice.

Additional characteristics of a fair system might include incentives to distribute a proper balance of generalist and specialist physicians, support of medical education since the doctors for your grandchildren and your great grandchildren have yet to be trained and they should be trained well, and ultimately, of course, in a system when it reaches a maturity, there should be sufficient national satisfaction with overall health care spending and delivery

and sufficient understanding of the need for continual improvement in health status so that governmental support for biomedical research is not compromised, and also that money is available for the prevention of illness and the promotion of health.

We recognize that the keys to tomorrow's health and well-being are twofold - advances in biomedical research and widespread effective efforts in the prevention of illness and the promotion of health. So the challenge then is to create a system of health care reform powered by a set of basic economic incentives that foster these desired characteristics. Well, it is not easy to think of those. If it would have been easy to do so, we would have thought of that a long time ago.

One set of ideas that I've been thinking about I would call the balanced incentives plan. Let me explain a little bit about it. Its underlying principles are to shape the economic incentives to the appropriate decisionmakers and to integrate and coordinate those economic incentives so that cost control in one area doesn't result in a ballooning of costs or perverse incentives in another, one that will nurture the critical patient-physician relationship to the satisfaction of both patients and physicians. I'd like to share these ideas not as a solution but to stimulate your own thinking because I'm sure it has many concepts with which you are already familiar and thinking about.

For outpatient care, with the balanced incentive plan, every patient would choose a primary care physician and that physician would receive an agreed upon amount per signed up individual, so called capitation payment. This payment would cover fairly the costs for all outpatient procedures - the tests, the consultations with other doctors, all the care that's either delivered directly by the primary physician or by others that the physician approves. It would also pay for payments to physicians who would provide care in the hospital. So you have a patient who can no longer go doctor shopping or emergency room hopping without agreement by the primary care physician, unless, of course, the patient chooses to pay for it out of pocket. Care for true emergencies would be paid for without requiring prior approval, but that's an exception.

In such a system, the primary physician becomes a gatekeeper to the patient's care. He must consider both benefit and cost. All other physicians who provide the consultative services must do so as well. The reality becomes that cost must be considered and to have the physicians do so themselves certainly

offers a better alternative to the current arm's length control in which distant bureaucrats attempt to second-guess and to limit the decisions of physicians.

Well, you would ask, there could be great variations in illness among one doctors' panel of patients compared with another. Would this not make the arrangement impractical if you took on all the sick people and I took on all the healthy people? You would need mechanisms to distribute such a risk and you would do it by pooling a group of doctors into a group of, say, ten or twenty doctors that might ideally be formed on a voluntary basis among colleagues; certainly there the considerations of quality and performance would be much more meaningful with personal involvement among friends that you know and people whose work you can rely upon. You would also have insurance mechanisms, stop-loss mechanisms so that in the event of catastrophic illness, the primary care physician and the panel of physicians wouldn't go bankrupt.

Well, that's a way you could share financial risk and yet keep the risk within reasonable control and compensate the physician fairly assuming that the patient is managed reasonably well. What about hospital care? Inpatient hospital care tends to be both the largest and the most variable component of health care expenditure and the capitation payments that are established for these medical panels of doctors do not include hospital payments as I conceive them. How would the plan then incorporate incentives to control the costs of inpatient hospital care? First in terms of paying the hospitalizing doctor, as I said, the primary care physician would have received in his or her capitation payment, an amount calculated to pay for all of the doctor care in the hospital, including specialty consultants and whether you were the primary care doctor taking care of the patient in the hospital or you had recruited a surgeon to do so, it would come out of your existing capitation pool. But the doctor, the primary care doctor, would be the one who would decide whom to pick and choose.

As for payment to the hospital for its services, our existing Medicare prospective payment system has demonstrated that the financial incentives of fixed per case payment, payment by DRGs, does appear to temper the hospital costs for any one admission. But standard per case payment still fails to provide incentives to physicians to reduce the number of admissions so the question arises, are there incentives that could limit the use of inpatient services? And here, again, I think we return to the group of primary care physicians. While they wouldn't be at risk for the direct costs of the hospital services per admission, the primary care physician's payment arrangements could include incentives that work to limit utilization, overall hospital

admissions or days of care to some pre-established standard through additional financial risk or reward. If your patients had more admissions than the standard or more hospital days than the standard, there would be some risk. If they had fewer hospital days in this panel of doctors, there would be some reward.

There are a lot of other details - how to cover the costs of graduate medical education, the costs of whatever free care might be given, and so forth, but time is short for such a general description. So, in practice, how would such incentives work? Well, each person would choose a primary physician who would be responsible for providing his or her care directly or through specialists whom the doctor and the patient jointly select. The physician must balance the expenditures for patient care with providing service in a quality and quantity such that the patient would want to continue with that doctor year after year. If the patient is not satisfied, he might switch to another physician at the annual renewal of these arrangements. Of course, that would help to ensure against undertreatment by the doctor. The specialists that the primary care doctor selects must meet the patient's satisfaction and, from the doctor's point of view, be prudent in terms of expenditures, fees, lab tests and so on. Otherwise, the primary care doctor would seek out another more prudent specialist. So these are incentives that would work toward meeting patients' needs and yet keeping the costs of care down.

Then for the costs of hospitalization, the plan would provide payment by DRG that would adjust to the characteristics of each hospital and presumably keep hospital costs down as well. Physicians are restored in this way to their role as the prime decisionmaker and instead of the doctor having to contend with dozens of regulations as they do in the United States now, hundreds of forms to fill out, delays of payment, rejections of payment, arguing with third-party insurers, and other pressures, they could do what they feel is best for their patients and interact ideally with an overall management information system that provides them with updated business information.

I think health care costs would be moderated in a system that incorporates such incentives, both directly and also because it is much cheaper to prevent illness and to promote health than it is to treat illness. Doctors would then become much more interested in prevention of illness and promotion of health. And then, I think, as the nation begins to feel more assured about the control of health care costs and the quality of its care to all, support of basic biomedical research could once again grow in response to the realization that in the last analysis, the answers to cancer and heart disease and diabetes, the answers to

HIV infections and Alzheimer's disease, will reside in the research laboratory even as we focus on lifestyle and prevention to mitigate their onset or their impact.

Now, of course, in any system where cost control is to be achieved, there is always the possibility of undertreatment and that's the most common argument I get when I present this to audiences in the United States. They say, oh yes, the doctor will be motivated to ignore the patient, to undertreat the patient, but actually the possibility is decreased because if the patient can decide to choose a different doctor every twelve months, and stay within the plan overall, I think that undertreatment would be something that the doctor would choose not to do because every patient who leaves you means a certain amount of capitated money that you no longer have for the next year. And besides, most physicians, I think, do have strong feelings of professional accountability and would not withhold a truly needed diagnostic or therapeutic action for economic reasons.

Currently, as I said, the delivery of health care service to most insured patients in the U.S. takes one of two forms. The first is the traditional fee for service system that rewards health care providers for volume of services but does little to encourage the critical role of a primary physician as the accountable manager of the patient's ongoing health. The second is the HMO model which, although it includes some of the incentives envisioned by this balanced incentives plan, nevertheless, as it presently exists, tends to limit the flexibility of physicians to shape their care plans and their referral patterns in meeting the individual needs of each patient.

By contrast, these ideas we've been discussing tonight attempt to draw upon the advantages of both of these forms instituting some new basic business incentives while strengthening what is truly important in medical care and in doctor-patient relationships. It looks to a sound doctor-patient relationship, putting the responsibility for care where it belongs. It sets up the economic conditions that create a proper balance between primary care doctors and the specialists to whom they refer, and it puts the primary care physician on the spot for meeting the patient's needs since the option exists to switch to another doctor if the patient feels shortchanged by the physician who doesn't hit the right balance between responsiveness to the patient's own felt needs and prudence in expenditures. On the other hand, of course, if such a system were to be put into operation, it would alter existing relationships among physicians. However, at least in the United States, that's already beginning to take place as a result of other cost control mechanisms that are now being developed.

So this balanced incentive plan is one idea that takes a step forward, perhaps, in cost control with some new incentives for prudent behavior on the part of all providers but with retention of professional autonomy. No reform program can deal with all the problems in health care, of course, and this is not necessarily put forward as a complete solution or even appropriate for every single national group. The plan does seem an approach that has some useful ideas that may stimulate more individualized efforts at health care reform. It is an example of incorporating sound business principles, thinking about the consequences of the ways we pay for care and how we deliver care, along with critical consideration of the quality of care and the human relationships so important to the practice of medicine. It is this kind of thinking, I believe, that will help set the stage for the major improvements we all seek for health care in every nation. Thank you very much.

SESSION VI . . . . . .

Lessons Learned from Efforts to Improve

Nahum Gedalia: Good morning to you all. The first lecture on the topic of Lessons Learned from Efforts to Improve will be given by Mr. John Bingham, Chief Executive Officer of Magic Valley Regional Medical Center, a 165-bed county hospital. This Idaho hospital was featured in 1992 by the Commission of Accreditation of Healthcare as one of, and I quote, "six hospitals striving towards improvement and in search of quality."

John Bingham: Thank you for the opportunity to be here today. My hospital has been trying to implement TQM for the last five years. What I would like to do today is walk with you through our journey and explain our current thinking about applying TQM in health care.

In 1993, we adopted the goal of "becoming the healthiest place in America" and in a moment I will talk to you about why we chose that expression. Idaho is a state of one million people. We have 12 people per square mile and only two urban hospitals, both of them in Boise, Idaho. There are 275 beds in each. The rest of the state is served by eight regional referral centers.

The Snake River runs through our valley and in the early 1900s the water was diverted from this river up to the tops of the canyons and onto the plateau, making the farmland very fertile. That's why they named it Magic Valley. We grow potatoes in Idaho, lots of potatoes, and a lot of other crops.

Magic Valley also has 12 people per square mile. About 130,000 people are served by our health care system. There are eight counties in our service area, 10,000 square miles. We have three frontier counties which means that there are less than six people per square mile in those counties and then four rural counties, one of which includes the city of Twin Falls.

The hospital that I am administrator of is a 165 bed county hospital. It is designated as a Medicare regional referral center which means that we are recognized by Medicare for having secondary and tertiary level services. We have about $55 million in revenue annually, 700 employees and 123 physicians. We have no managed care or health maintenance organizations in our town, although that's soon to change. About 50% of our clients are Medicare patients over 65 years of age.

In 1989, we started our journey towards quality improvement when the hospital board decided to appoint a committee to look at the hospital's purpose. We involved the community, the board, the administration, the doctors and employees. We began with a vision focus. Why does this organization exist? What is its purpose? We were searching as a hospital to define what our role was in society, to see what needs we were trying to meet in our community.

We are the largest of eight county hospitals and we were very competitive during those years. We felt that we should be taking market shares away from other hospitals. Our initial vision focus included statements like: We wanted to be the premier healthcare provider. We wanted to be the center of excellence in whatever we did. We wanted to be the dominant market leader. We wanted to be the provider of choice and the employer of choice.

We started thinking about those statements as we were learning about quality improvement and we began to change our focus. We were learning at this time about Deming's four-point system of profound knowledge. First, systems thinking. How do you organize health care as a system? Second, how do you understand statistical variation in how we deliver health care? Third, the application of the scientific method to acquire knowledge. And lastly, the knowledge of psychology. As we began to understand those four points, we changed our focus. We began to take a systems view of health care in our community. We began to ask ourselves why not focus on the community's health, on restoring and improving people's health? Our decision was to use quality improvement as a method to move towards improving the health of the people we serve. So we shifted from focusing on competition to focusing on people's health.

We developed three questions as we were learning about quality improvement and we have found that these three questions help us understand TQM. The first question is: Why do we do what we do? Why are we here? That has to do with why the organization exists. Secondly, how do we know that what we do works? We go to work every day. We treat patients in both clinics and in the hospital but how do we know that it really works? And then, thirdly, what shall we do to improve based on what we know?

Well, I have a few thoughts on why we do what we do and they are shared widely in our hospital. First, people want to help other people. Second, people have an innate desire to learn. And third, people want to improve what they do. I was struck last night by Dr. Cherkasky's comments about why are we in health care. I think the questions I posed answer that: We are here to help

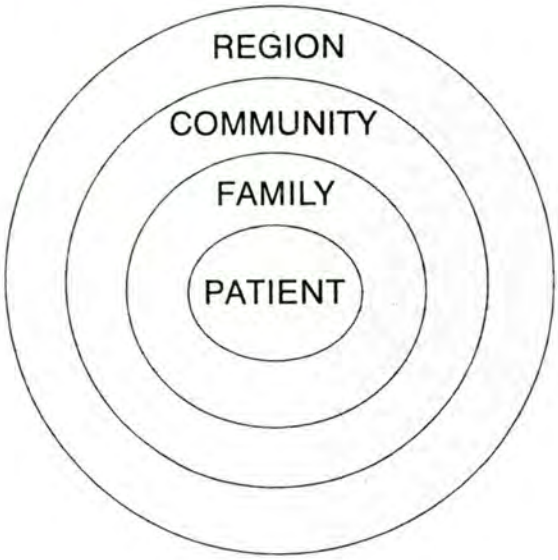
other people who are hurting and who need our care. We have a desire to learn about what we do in health care and how to improve it. We don't come to work to make it worse than the day before.

So out of that came a new vision statement for our hospital: The Magic Valley Regional Medical Center will be a standard of excellence and cooperation in making Magic Valley the healthiest place in America. We have a long way to go. As a state, we're ranked about 33 out of 50 states, so we have a lot of work to do and I'll talk about that in a moment.

The major elements of this vision statement are: First, cooperation. We recognize that we cannot achieve our vision unless we work with others. To be solo, to be an island, will not allow us to achieve our vision. Second, the vision statement must focus on health, not just in terms of physical health but in terms of mind, body and spirit. Third, health is a moving target. We will never achieve and never reach that target. It will always be moving, so we will always be chasing a new goal. And lastly, the importance of building a shared vision in our community. Our goal is to get other people excited about trying to improve health as opposed to competing with each other.

So we set as the aim of our system to improve the health status of those we serve. We started to develop a model for looking at our community and this is the first part of the model (see Figure 1).

Figure 1: Aim of the System: Improving Health Status



It indicates that the patient is the center of everything we do. But the patient is also part of a family unit and that family unit has a bearing on how patients make their health care decisions and monitor their health. So we decided that we have to look beyond the patient to the family systems that are in place. And we also recognized that the family is part of a community system and we have to look at what is going on in the community and how we are connected to that as a system. And then, lastly, we believe that health care requires a regional basis, that certain services, because of their cost, should be delivered on a regional basis So we need to figure out how we connect in the region to work as a system.

With that vision statement, we began to look at the gap between being the healthiest place in America and where we are today. For that, we looked at some data. I'll just highlight a few of the items. Figure 2 shows the leading causes of admission at our hospital from June of 1991 to June of 1992. The leading one is vaginal deliveries - we do 1,000 births a year, followed by C-sections and hip and joint surgery.

We also looked at the leading diagnoses by reimbursement. Figure 3 shows that we made the most of our money on orthopedic surgery from hips and joints, followed by vaginal deliveries and then bowel surgery. Then we looked at the ten leading causes of death for the 136,000 people that we serve (see Figure 4) and the leading causes of death, not surprisingly, are heart disease, cancer, strokes and injuries. Finally, we looked at the 136,000 people that we serve and analyzed what causes them to have years of their life lost. Figure 5 shows that accidents are the leading cause of loss of years of potential life, followed by cancer, birth defects and heart disease.

We looked at all of this information in order to try to figure out what we should be focusing on. We concluded that we should focus on the most frequent causes of morbidity and mortality. Heart disease is number one, followed by cancer, then accidents, pulmonary disease and deliveries. So our focus, the leverage point in our community system, are those areas.

So, given that we have the focus on morbidity and mortality, how will we go about improving the health system? Obviously, we must have knowledge about the system, so we began to study. How do we gain knowledge? Jacob Bernowsky, who has written extensively on science, talks about knowledge as the ability to predict the future. When a patient comes in to the hospital or to a physician's office or clinic, they want you to predict what's going to happen

Figure 2: Leading Causes for Admission - MVRMC June 91-June 92

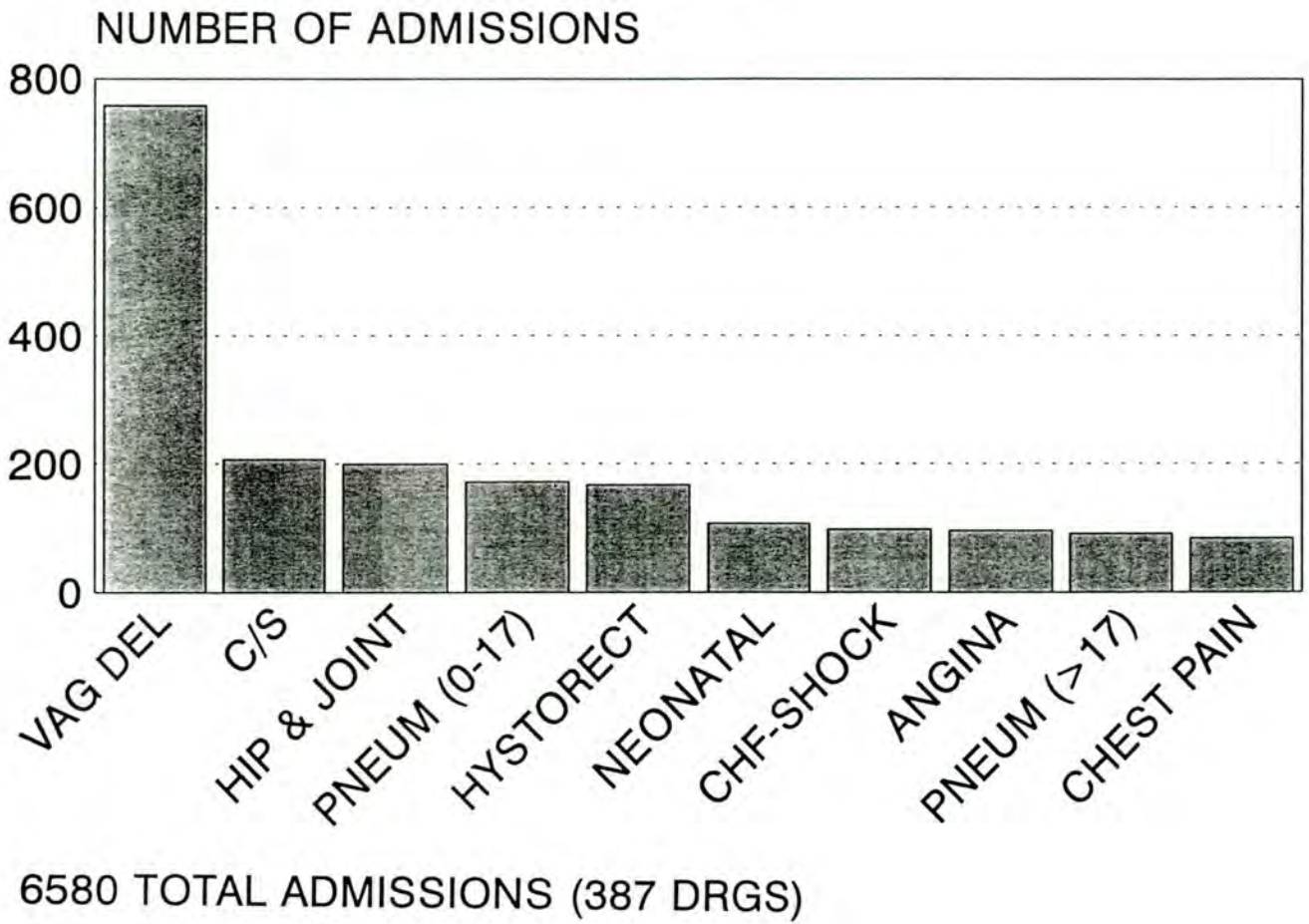


Figure 3: Leading Diagnosis by Reimbursement - MVRMC June 91-June 92

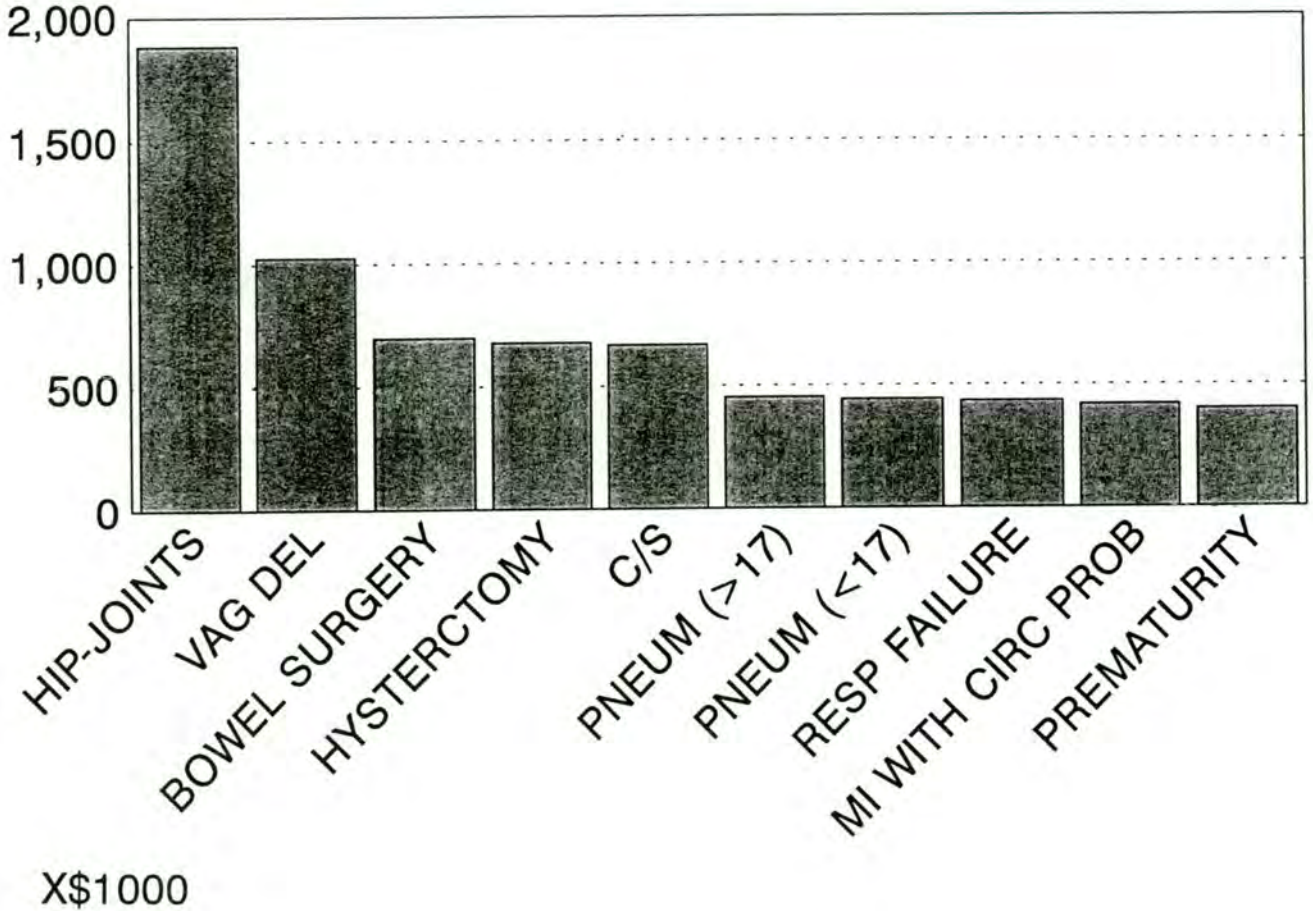
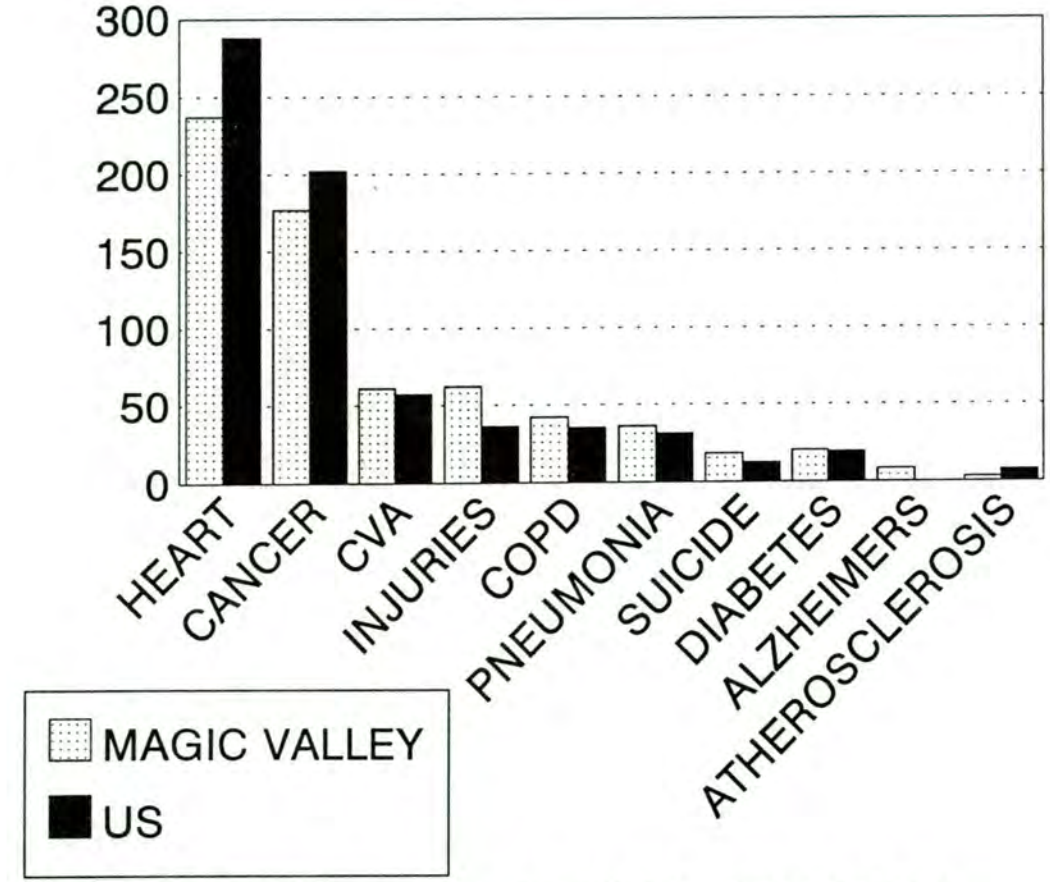
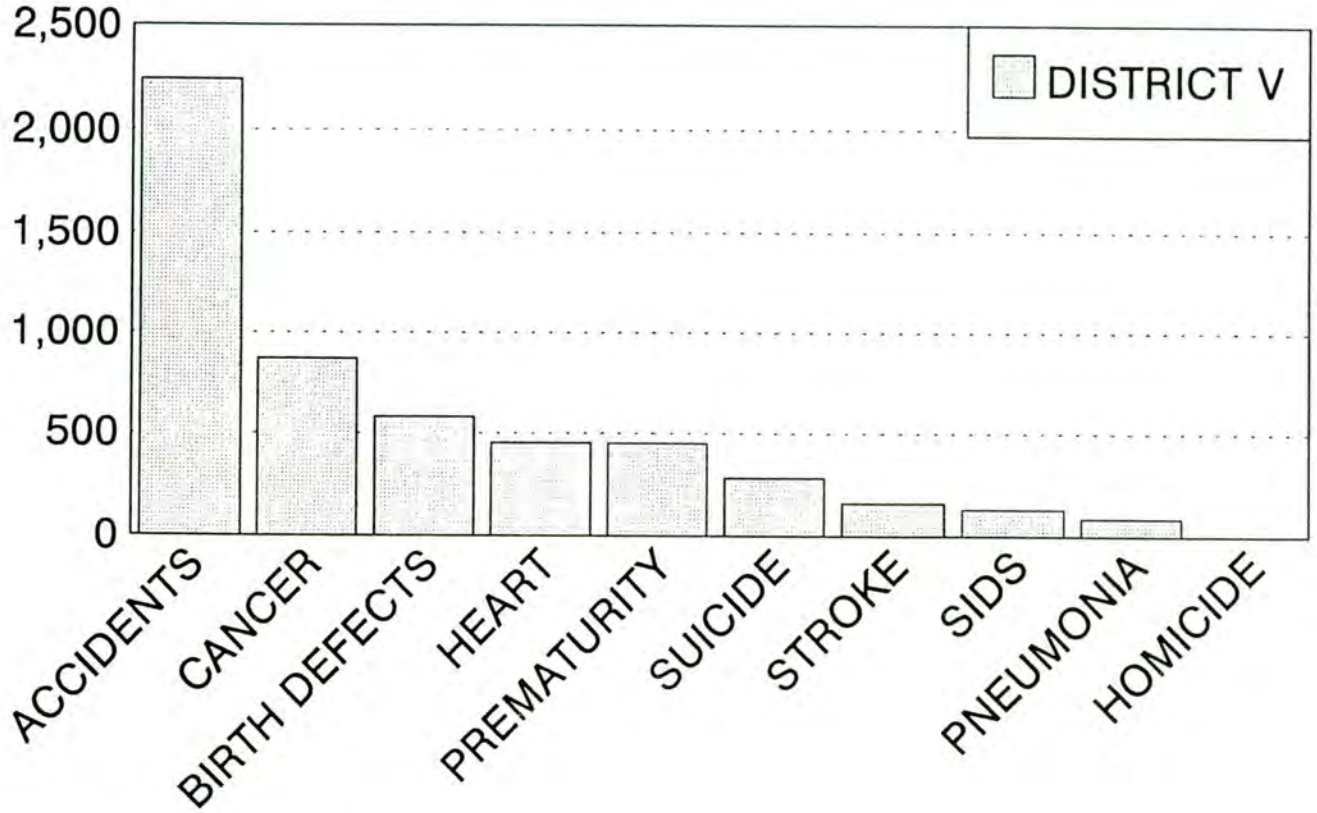


Figure 4: Ten Leading Causes of Death - Magic Valley 1990



RATES-FROM BUREAU OF VITAL STATISTICS

Figure 5: Years of Potential Life Lost - District V Idaho 1991



IDAHO BUREAU OF VITAL STATISTICS

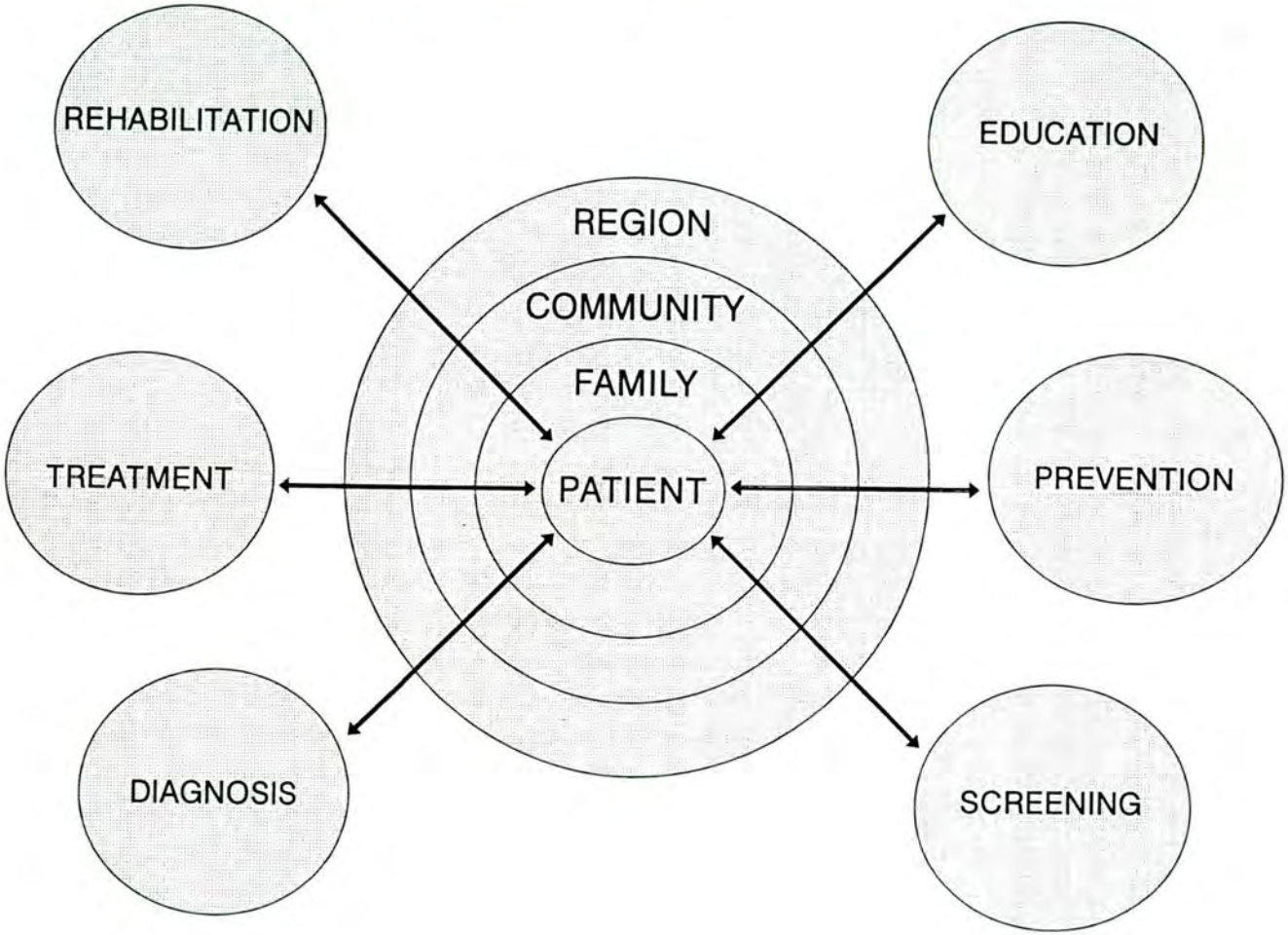
to them based on the illness they are presenting to you. And so, we started to focus on how we gain knowledge.

We deduced four ways: The first is personal anecdotal experience. Patients come in and we treat them. We may or may not be using science at that point to treat them. The second level is shared anecdotal experience. We treat patients. It seems to work. We discuss that with our colleagues. They then try that and there is shared learning and shared knowledge. But the next highest level of knowledge comes from personal scientific experience, doing science in your own practice and in your own hospital and that means applying the scientific method to what you do so that you'll know that what you do works. And then the last, which is really the highest level, is shared scientific experience and I think that's what this conference is about. How do we share what we know about TQM and about how to apply it? How do we share what we know about health care and how to improve and restore health? We need to figure out ways to transfer that knowledge faster.

Yesterday, a gentleman raised a question that I thought was very appropriate and that is, is this all science? What about ethical decisions? What about values? We have thought about that as well and we believe that has to be integrated into this model. There are four questions that have been written by Daniel Bell to help us think about that. How do I face my own death? How do I deal with tragedy? What are the characteristics of obligation? And what is the nature of love? These questions cannot be answered by science. They are answered by individuals and the culture that they live in which must be brought to bear on health care. So with this, we then took our model to another level. Figure 6 illustrates the circles I talked about earlier, the six areas that we wanted to focus on. As a hospital, we had traditionally focused on diagnosis and treatment of disease. The circles that are at seven and nine o'clock. But as we thought about health care as a system, we realized that we must focus on education, prevention, screening and then diagnosis and treatment and rehabilitation. So we took this model and started to think about the leading causes of morbidity and mortality and asked ourselves how do we work as a system to deal with these six components?

The scientific method, which I'm sure you're all familiar with, is what we are trying to apply to this model. Jacob Bernowsky has defined it as collecting data, finding order in the data, formulating a concept and testing the logic of the concept. There are several quotes that I really enjoy. One is: "Does the concept give an unforced unity to the experience of man? Does it fit without having to force it?" And secondly: "You can only gain knowledge by being

Figure 6: Systems View of Health Care Components of the System



truthful." You cannot fudge the data. You cannot fudge your numbers. What Bernowsky is saying is that we must be truthful to each other about our science.

The variables for measurement that we then generated, apply to all six of those components. We don't have to measure all of them all of the time, but Figure 7 helps you figure out where the leverage points are. It shows the diagnosis of a disease and the variables that you can measure. For instance, you can measure the timeliness of the diagnosis. For instance, with cancer or with heart disease, how timely are we at making the diagnosis? What stage of cancer are we getting when we make the diagnosis of cancer? And you can look at each of these variables and set up experiments to control the variables and measure what you do. Each of these variables can also be applied to education, screening, prevention, treatment and rehabilitation. I'll give some examples in a moment.

How do we know what to tell our patients and how do we know it will work? What I would like to talk about briefly here are the two types of studies that are in the literature. The first are enumerative studies and these are the ones that we read about in the journals that are randomized, double blind, prospective studies. The second type of study that we're trying to get involved with is analytical studies where we study the actual patients being treated in daily practice and what we are learning from those experiments that we conduct every day with patients. A friend of mine, a pediatrician on our hospital board, is often talking about ortistus media. There are seven pediatricians in his practice and they treat about 800 patients a year with ortistus media. He has started to look at the variation in that practice. They do not know that what they do works. They have not looked at the data over time and looked at the variation to conduct analytical studies of their patients. So what we are talking about in our community is how do we do science on a real time basis? How do we do science with our patients?

Figure 8 illustrates some of the approaches that the United States is taking in trying to improve its health care system. Unfortunately, I think there is too much focus on inputs and outputs. Right now, the efforts to control the health care system are being directed at how to monitor and limit the resources on the input side and how to hold people accountable for the outcomes on the output side. What I would like to suggest with Figure 8 is that we must look inside the box at what is going on between that patient and the physician in terms of the cultural knowledge and the scientific knowledge that the patient is presenting.

Figure 7: Variables for Measurement

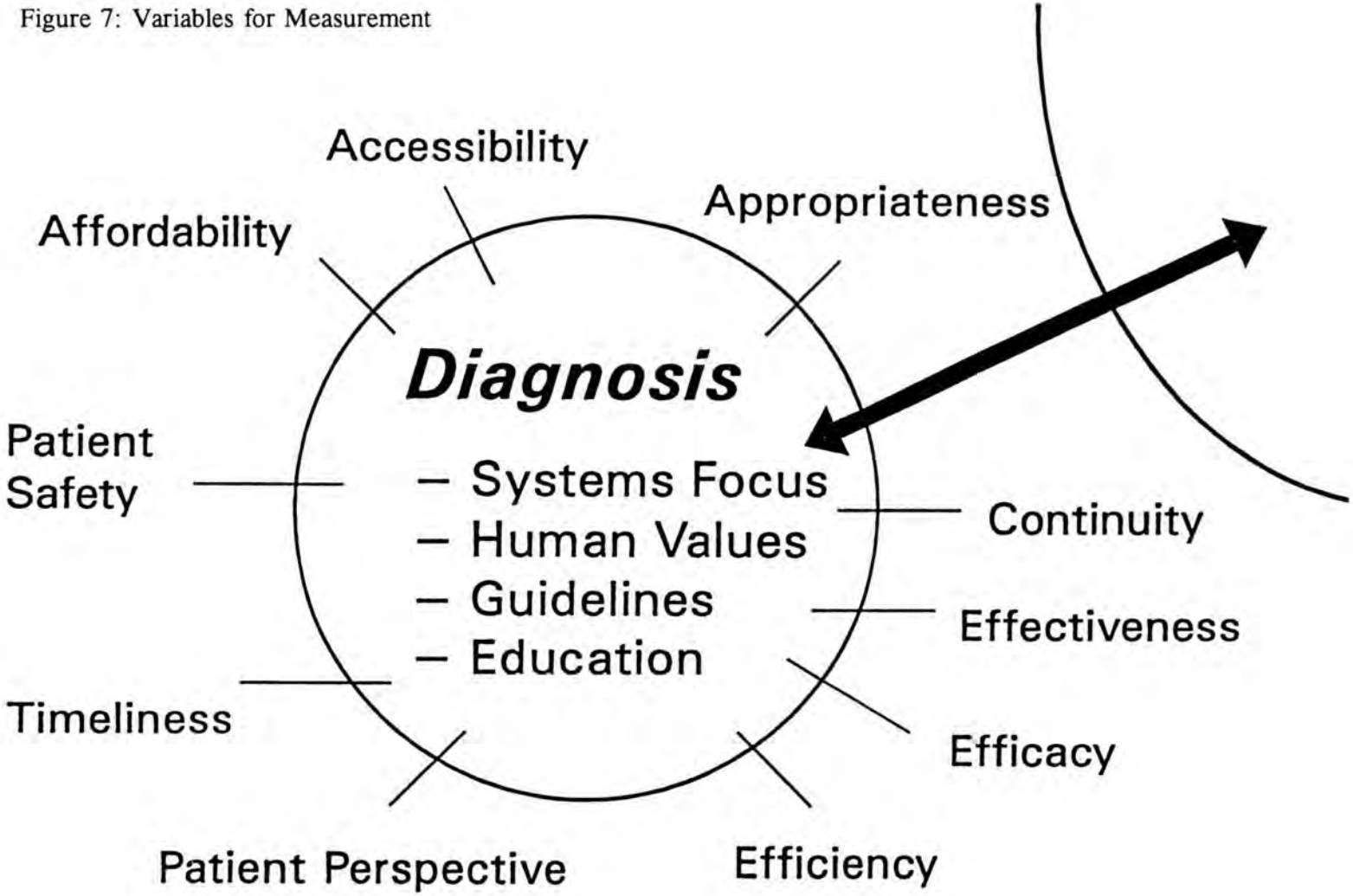
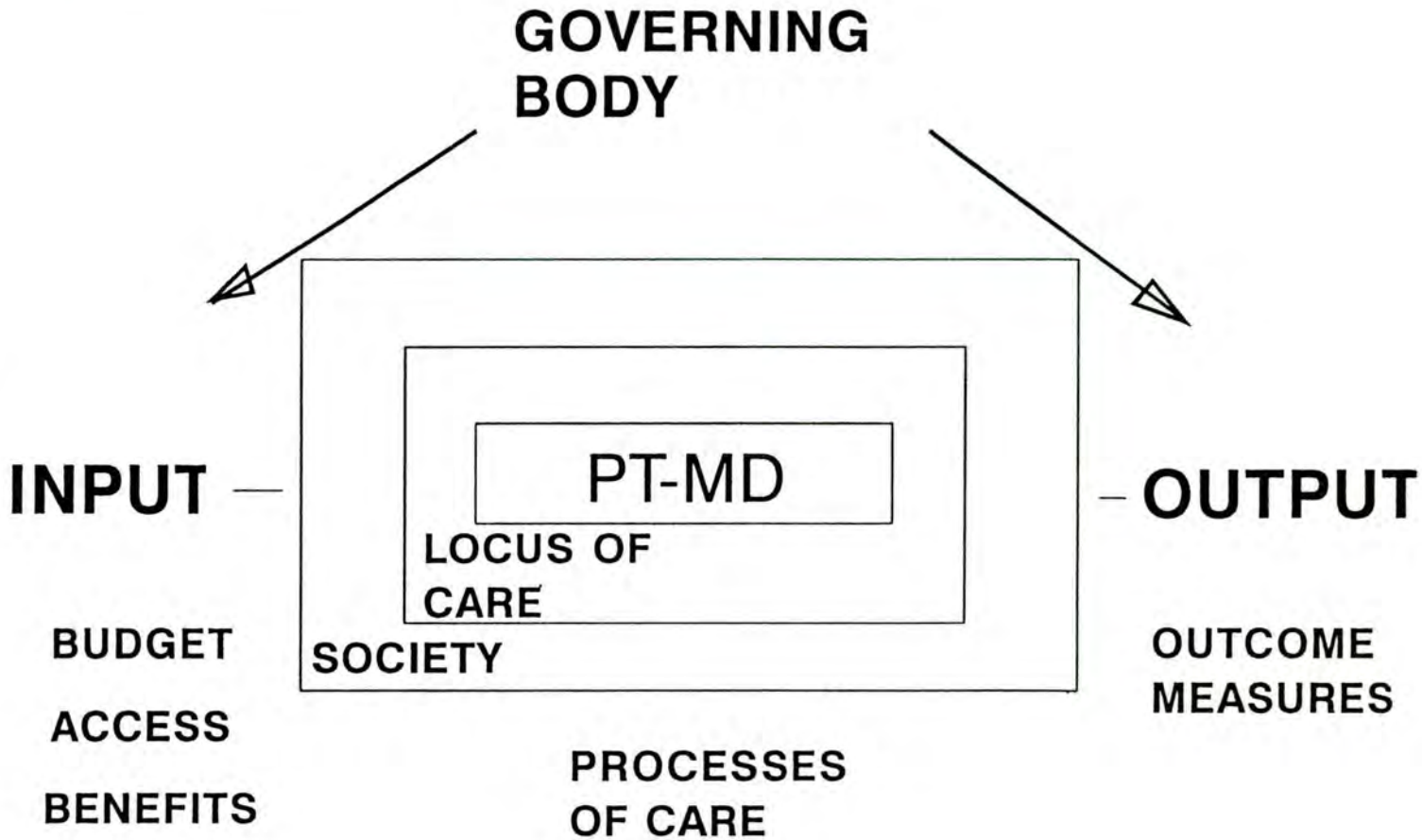


Figure 8: Health Care Model



What I would suggest is that we need to encourage more science inside that box so that the patient-physician relationship is understood from a scientific, as well as cultural point of view. But also the doctors and patients must move outside of the box. They must move to the locus of care, which means the hospital system and the community care systems. They cannot be free-standing, just in their clinic or office. They must move outside of that box into society as well.

Let me talk briefly for a few moments about the application of this model and what we've tried to do. We've applied this model to three areas. The first is preventable injuries. This is the leading cause of years of potential life lost. In our community, we focused on bicycle injuries and automobile injuries. Secondly, I'll talk about prenatal care and an experiment we've been doing for a number of years, and lastly, heart disease.

Our preventable injury focus has been in place for about four years and a lot of this is directed at children (see Figure 9). A number of years ago, we started what's called a Headsmart Bicycle Helmet Program. We looked at head injuries and decided that we needed to focus on how to reduce the head injuries in children. We did a survey through the school system and only one percent of our children were wearing helmets. So we formed a community coalition with a thousand people, including people from service clubs, school systems, sporting goods stores and bicycle stores. We tried to educate people on why they should wear helmets. We wrote curriculum and trained school teachers and gave them the materials to teach in the school system. We increased the use of helmets to about 37%. We also formed a traffic safety coalition and again it had about 1,000 people, different people -state police, local police, service clubs - focusing on seat belt usage. We also are a highly agricultural state. We have a lot of injuries related to agriculture and so we've started to educate children and farmers on how to prevent such injuries.

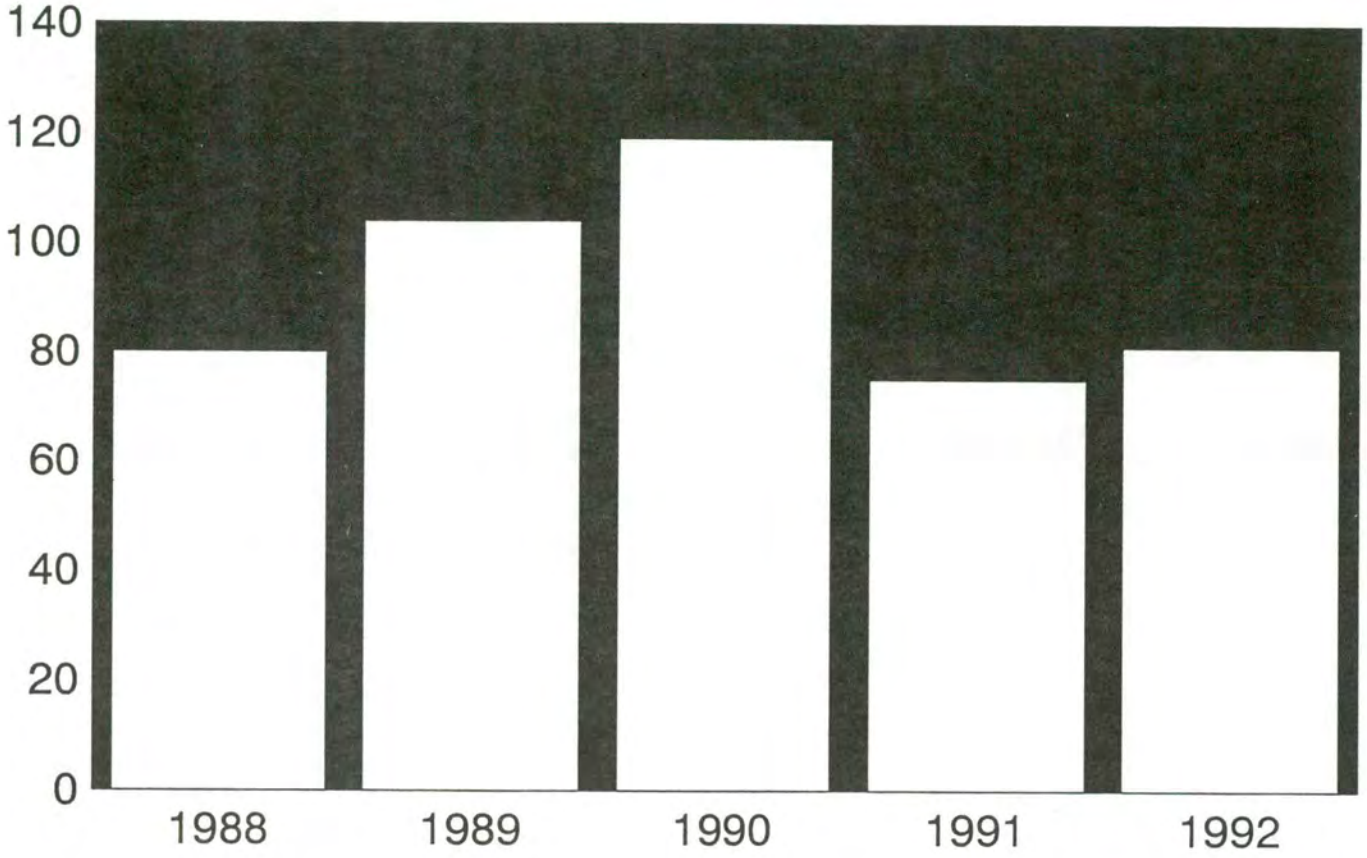
Idaho is also a state that has a lot of hunters and we have a program designed to try to improve gun safety and accidental deaths from guns. We have an injury prevention course for CPR. We have annual safety fairs and we are now starting what we call a smokehouse or hazardhouse that is basically a mobile smokehouse that goes around to schools and shows people how to handle themselves in a fire. And then, lastly, a project to put alarms in all of the homes in our community.

Figure 10 shows the change in bicycle-related injuries. You can see, in 1990, we hit the peak of bicycle-related head injuries. We then implemented our

Figure 9: Preventable Injury Focus

- HEADSMART Bicycle Helmet Program
- Traffic Safety Coalition
- Farm Safety Day Camps
- SAFE GUNS=SAFE KIDS Gun Safety Program
- Injury Prevention/CPR Courses to Parents
- Annual Safety Fair
- Smokehouse/Hazard House Mobile Unit
- "Project Get Alarmed"

Figure 10: Bike Related Injuries - MVRMC Emergency Room



MVRMC SAFEKIDS DATABASE AS OF SEPT 1992

program of trying to get helmets worn. We have each year now dropped the number of injuries in the ER. The 1993 data is not out yet but it looks like there will be another drop in terms of preventable injuries to kids.

Figure 11 shows our efforts to increase the use of seat belts in our community. We were the first city in Idaho to achieve greater than 70% seat belt usage in our community. And you can see each year what has happened. Now, what would you expect to have happened to the mortality rate from automobile injuries? You're suggesting that it should have gone down as seat belt usage went up. Well, it didn't. It has not gone down at all. Our findings are that the deaths are caused by high speed and alcohol and drugs and it seems that no matter how many seat belts you wear, if you are going too fast, you'll probably die. What we are finding, though - and we're still analyzing the data - is that the severity of injury is going down.

Now I'd like to move to prenatal care. We had a major problem in our community with access to prenatal care. Figure 12 shows that we had 78 mothers coming to the hospital with no prenatal care. We had an insurance crisis: All of our family practice physicians were being dropped by their insurance carrier and they could no longer deliver babies. In response we formed a community coalition to look at how we could improve access to prenatal care. We involved the state and we lobbied for increased reimbursement. We involved the insurance companies and figured out an innovative way to cover their malpractice insurance. We involved public health as a primary screening site and we involved a federally-funded clinic, as well as the hospital, our family practice physicians and our obstetricians. The aim of the clinic was to ensure that all mothers had access to prenatal care and you can see what has happened over the last few years. That number is continuing to drop. We only had 16 mothers in 1992 that did not have access to prenatal care.

This then impacted admissions to our Neonatal Intensive Care Unit (see Figure 13), which have steadily dropped. In fact, we've dropped so much that we are thinking of getting out of that business because we don't have the volume and the service is not needed. We're actually putting ourselves out of business in this particular area. You can also see what's happened to our low birth-weight deliveries (see Figure 14). Those have also dropped. So, as we've been eliminating the very high-risk babies, through access to prenatal care, we've been eliminating the very high-risk deliveries.

Figure 11: Percent of Seat Belt Use - City of Twin Falls

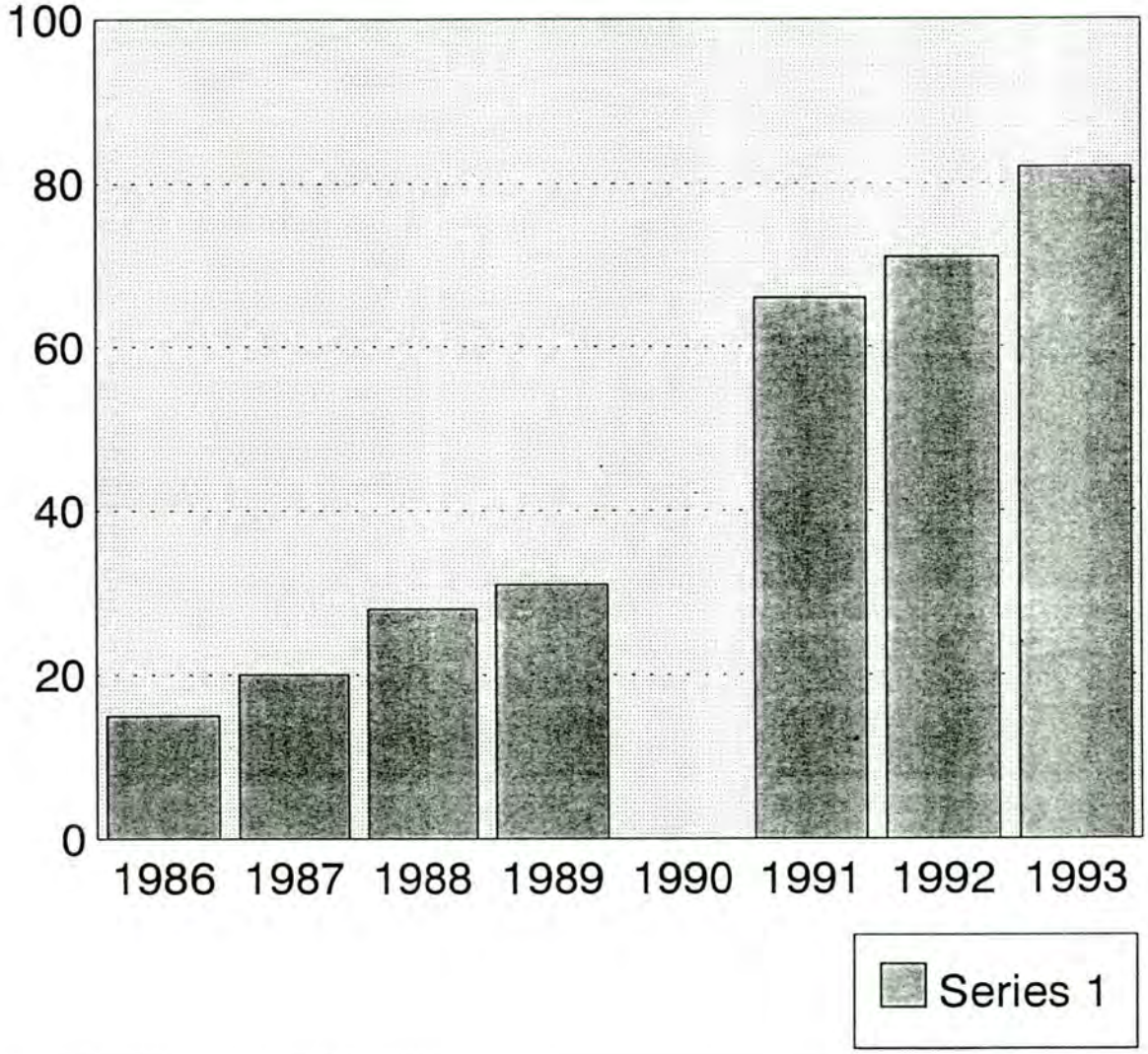


Figure 12: Access to Prenatal Care - Number Mothers with No Prenatal Visits

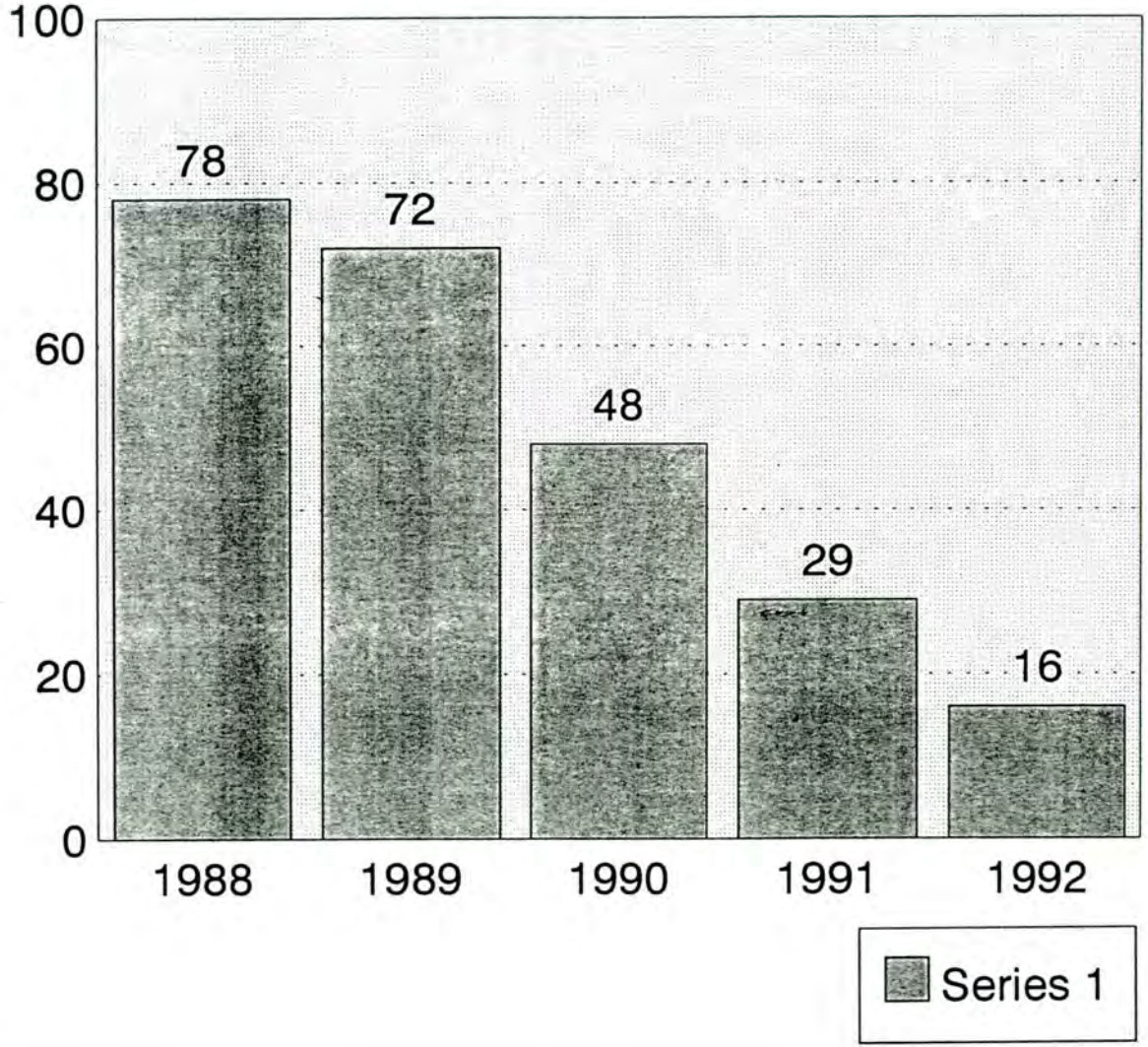


Figure 13: MVRMC NICU Admissions - Total Number of Infants

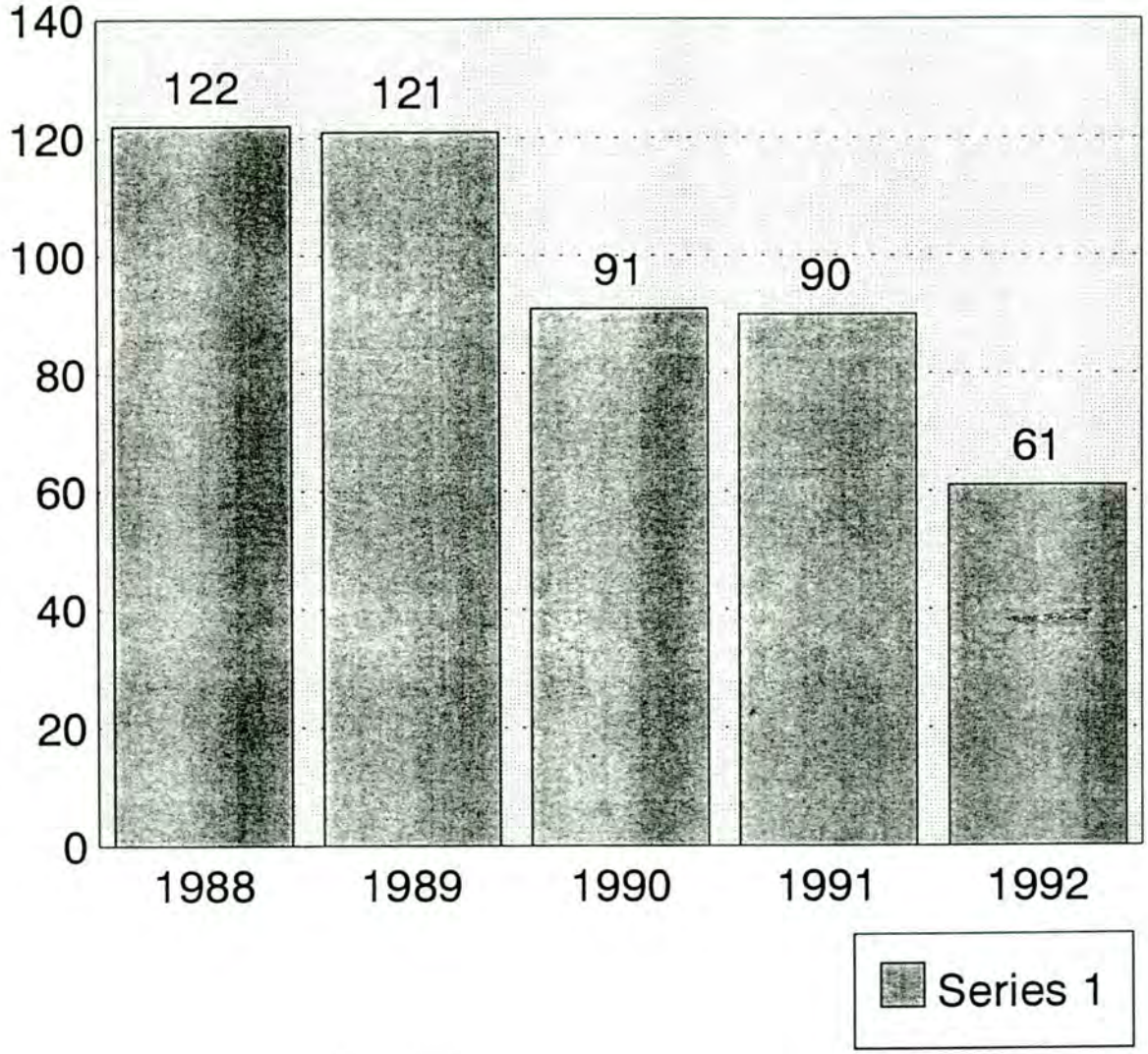
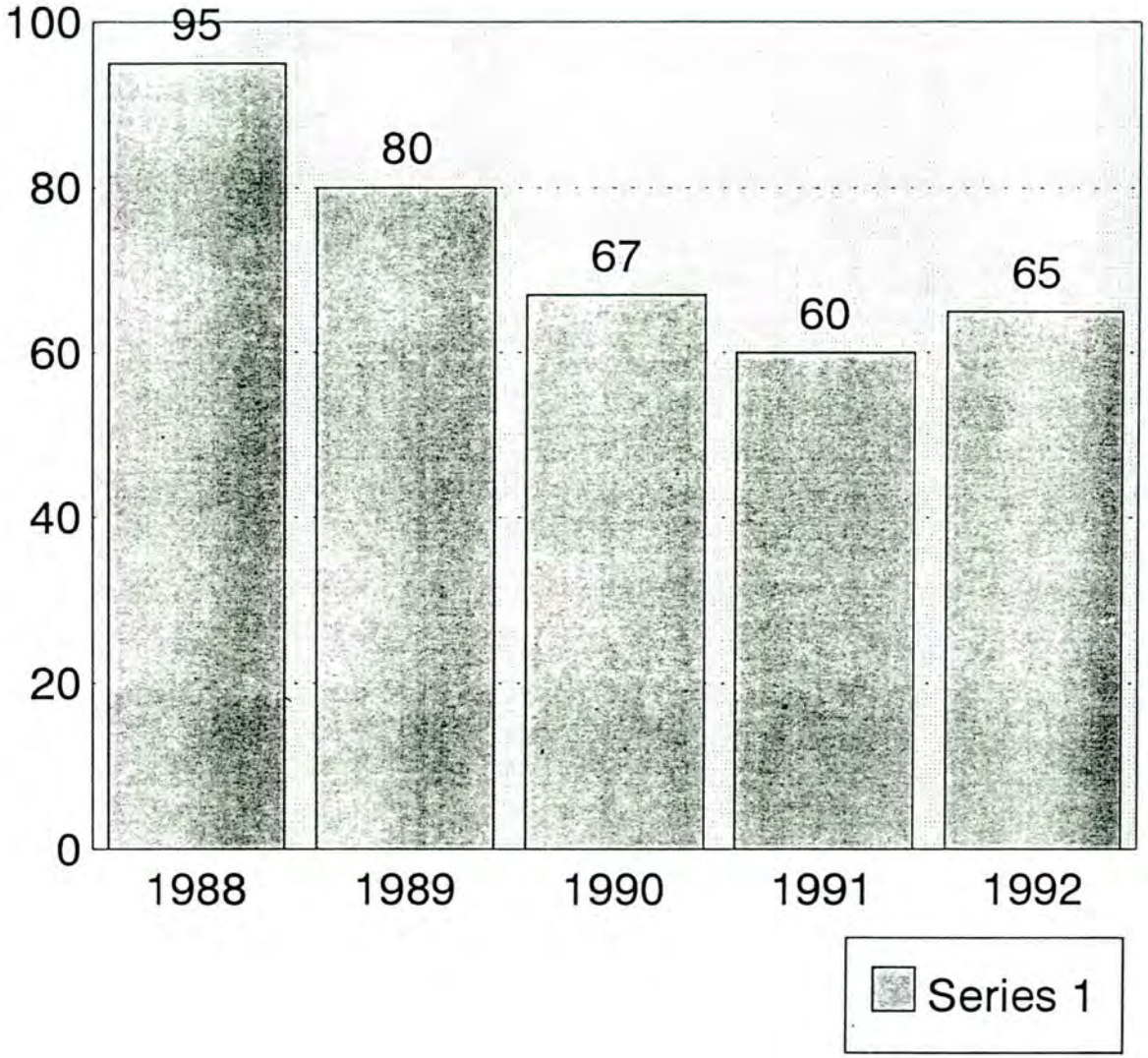


Figure 14: Low Birth-Weight Deliveries - <2500 Grams



Now I'd like to talk about what we're doing with cardiac disease. It is the number one cause of morbidity and mortality in our community. We started a project a couple of months ago where we're applying quality improvement to the treatment, diagnosis, prevention and screening of heart disease. In terms of the initial data, we're looking at the time between the onset of chest pain and arrival at the hospital. We're looking at how long people are sitting at home with chest pains and, on average, it's about 112 minutes. The average in the U.S. is more like four hours. There have been a number of studies done on myocardial infarction and looking at chest pain and how long it takes people to get in. In Seattle, where they have a number of years of experience at trying to improve heart disease, their first theory was that if they could educate the public better, in terms of what the symptoms are of a heart attack, that people would come in sooner. As you might guess, that didn't work because knowledge alone is not enough. You have to look at what drives people's behavior. So we're trying to figure out, as a community system, how we reduce the time from the onset of chest pain to when people come in to our hospital. This is actually a very extended process. We're looking at prevention and education - how do we change diets, smoking habits, etc. That is a part of this study.

The second part is how well our communication systems work We are a rural state. How well do our ambulance systems work at getting people in to the hospital? Who should administer thrombolytic agents in the hospital? We have a study going on now to monitor the thrombolytic time, the time it takes from the time the patient arrives at the hospital, to when we get thrombolytic agents on board. The standard is about twenty minutes in the country. That's what we should be shooting at. And the standard from the recent study shows that the best time for treatment is within seventy minutes of the onset of chest pain. As I mentioned, we're at 112 minutes. So we're already in trouble before they even get to the hospital. Our time in the hospital right now is about 40 minutes for getting thrombolytic agents on board. We're trying to look at how to change that process and I'll talk about that in just a minute.

So what are some of the lessons that we've learned from the myocardial infarction team? Well, the first is the need to understand the extended process. If you draw a flowchart, then you begin to understand what drives a patient to make the decision to call the ambulance or to call their doctor or to go to the hospital. We know very little about that right now. What drives that patient decision? How well does our communication system work? How long does it take to communicate that we have a problem? How well do our emergency medical services work? And what is the role of the Emergency Room

physicians? Should they be administering the thrombolytic agents? Many places do that across the country. In our case, we wait for the internist to come in and administer the thrombolytic agents and we are looking at why we do that and how do we know that that works.

We're also trying to gain consensus on operational definitions. Amazingly enough, we've had trouble defining what is chest pain. We've looked at the literature and it was not clearly defined in many of the studies. And so we're writing operational definitions so that when we gather the data, we are clear about what we are gathering. For instance, we will exclude all patients that have had a MI from trauma, or that were already in the hospital and had an MI. They will not be part of our data base. So it is important to write operational definitions of what you're going to be gathering data on.

And then, the last point which I've talked about - why do patients do what they do? We don't know why knowledge is not enough. People sit home and wait. They think it will go away. They don't want to bother their physician. They don't want the cost. We're trying to find out why people stay home, even though they know they may be having a heart attack.

Some other lessons we've learned is that we have to look at our rural versus urban capacity. We cover a large area - 10,000 square miles. Many people live far away from our ambulance services. How do we look at the system in order to improve these services? What is the role of paramedics? Should they be giving thrombolytic agents? In Seattle, that's being done. Maybe that's a better way to take care of heart disease. We are also looking at the variation in protocols. There's a difference between the way the ER physicians, the family practice doctors and the internal medicine physicians treat heart disease. Why is that and what can we learn from why they do it differently?

And then, lastly, what data will it be necessary to collect to improve the leading cause of morbidity and mortality. This study has just started and we're very excited because we think it will have a tremendous impact on the health of our community.

Let me talk about some of the lessons we've learned from our quality improvement journey. We found that there was widespread fear of what we were doing. There was actually fear of knowledge. Some people were afraid to step out and try to learn about this new technique. They were afraid of reprisals, of being reprimanded for experimenting and taking risks. There was the fear of failure. I don't want to do this because I might fail. There was even

the fear to provide information, that the information would be used against them in evaluations if they really talked about what's wrong with the hospital systems. There was the fear of giving up control and, lastly, just the fear of change. We found all of these as we've been going on this journey.

We also found that the CEO must be a catalyst for change. This responsibility cannot be delegated. I would suggest that it works best when it comes from the top and the top buys in to what's going on. Middle managers will feel the greatest pressure. In our hospital, they are the people who have resisted the most because they don't want to lose control. I think you'll find that there will be a struggle, as managers give up control to employees to solve process problems and need to define their new role.

Thirdly, story boards, which help tell the story of what the teams are doing, are an important educational resource. Lastly, information systems must be redesigned. The computer system must be geared to total quality management.

Other lessons learned: Allocate considerable time to education and training. This is a long-term process and it will take a lot of time. The transformation that Don spoke about yesterday needs to be thought of in terms of years, not months or weeks but in terms of years, more like ten years. Don't overuse buzz words. We're trying to go back to basic science. Use the terms that physicians and clinicians are familiar with. I would suggest that you develop medical staff champions early on. We didn't do that and I think we should have involved physicians from the start. And lastly, many stages along the way are iterative, meaning you will go back and revisit them. We have done that a number of times because we've learned that we've made mistakes and had to go back and start over. I would suggest you'll also experience that.

Finally, I'd like to comment on building learning capacity. What we are learning now is that we need to have linkages outside. We have formed some formal linkages with Case Western Reserve University Medical School. They are a leading provider of primary care physicians in the United States. They have come to us because of our quality improvement background and asked if we will affiliate with them for the training of students and residents. What we envision is a link-up with Case Western and their professors so that there will be a complete feedback loop of what's taught in medical school versus what works out in the field.

Also, we've tried to develop linkages with the Institute for Health Care Improvement which Don heads and Go KUPC which is another leading

consulting firm. We're also looking at ways to focus on community-wide health improvement. We're part of a ten community project that's looking at the health of a community and applying quality improvement to that. And then, lastly, we're forming linkages with other hospital boards so that we can work together as a system.

Let me summarize my observations. First, I'd like to stress the importance of vision. Each of you needs to define why your organization exists and develop a shared vision of why you're doing what you're doing. Secondly, I'd like to suggest that there must be a tremendous focus on both process and outcome measures to know if what you do works. We are just now beginning to understand the need to monitor both process and outcome measures of everything we do in the hospital. And lastly, the importance of customer knowledge to help guide what we improve.

Nahum Gedalia: Thank you very much, Mr. Bingham. We can take a few questions, if there are any.

Question: Thank you, Mr. Bingham, for the presentation. My question is this: Who can afford to put the time and effort into this process and how is it financed? I have often heard it said that an exercise like this is too expensive. Also, our physicians are seeing 100 patients a day in their outpatient clinics; they would never be able to afford the time to put into it. So, it seems to be a luxury that we cannot afford.

John Bingham: Thank you. The question is, how do we afford this, both in terms of financial resources and time? What I would like to suggest is that there is no alternative. I think physicians and clinicians have to get involved with applying quality improvement to what they do because people are going to ask how do you know that it works. In the United States, the people that pay for health care are now asking for outcome and process measures of what we do. They want to see the data. Then they want to see how you have improved things. Our experience has been that when you involve physicians in answering these questions, it is natural for them; it is how they were trained. Our experience, especially with the MI team, bears this out. We have cardiologists, internists, emergency room doctors, family physicians. We meet once every two weeks for an hour and a half and then everyone goes out and does their work during those two weeks. The doctors always come because they want to improve what they're doing. So I would suggest that we have to figure out ways to internally afford to do this, because the people that are

judging our products, what we deliver, are going to ask for that data and we should have it. We should know that what we do works.

Question: I think that in order to have a comprehensive idea about time lapse in emergency medical situations, we have to do more analytical studies of the time lapse from the start of the incident until the patient arrives at the emergency department. I understood that in your study, you are concentrating on the time that elapsed from the occurrence of a cardiac problem until the patient arrives at intensive care. But there may be a lot of time which elapses at the start, in the pre-hospital phase. Could you please elaborate?

John Bingham: The question has to do with whether we are looking at the total elapsed time regarding emergency patients, not just in the hospital. I'm sorry if I wasn't clear about that. We are looking at the total elapsed time regarding MIs from the onset of pain in the home: how long does it take the patient to decide to call the hospital; how long does it take for the ambulance to get there, to stabilize the patient, to get him in; how long does it take the nurses and the ER physicians to make the diagnosis; how long does it take for the EKG to get read; how long does it take for the pharmacy to have the thrombolytic agents ready; how long does it take us to administer those; and, ultimately, we'd like to look at how long it takes the patient to get back to work or functional status. So our effort will be to look at total time. We have to look at the total process.

Nahum Gedalia: We'll take one more question please.

Question: You mentioned that middle management was particularly resistant to the introduction of a lot of programs and also that the fear of losing control among managers was particularly great. I'd be very curious to hear you detail a little bit how you confronted that resistance and some of the ways that you managed to enroll people in this process.

John Bingham: Our experience has been that in America, we've trained middle managers to basically delegate and control what's going on in their departments, that they have to have the answers, that they are responsible. As you move into TQM, employees are empowered to start making the decisions and improving processes. What happens is that middle managers then begin to wonder what is their role, why do they exist, do they have a future? The way we've tried to deal with that is to say that their role is changing. I think that their role is changing to one of a teacher and a coach, a mentor to the teams. Their job is to eliminate barriers in their department for their

employees. They don't have to have all the answers. The way we do that is by increasing education, involving them in learning about TQM. But it has been a struggle for us and I think it will be for most places.

Nahum Gedalia: Thank you again, Mr. Bingham. The second lecture on the same topic, Lessons Learned from Efforts to Improve, will be given by Dr. Hugh Koch.

Lessons Learned from Efforts to Improve

Hugh Koch: My talk is going to be a personal view of being a chief executive. Many of you who are CEOs will understand it when I say that the aim of being a CEO is often rather like being a parent: The aim is not to fail too much, not necessarily to be successful.

It might be relevant to fill in just a little bit of my background. I'm a clinical psychologist by training. I worked in primary care, secondary care and both psychiatric and acute medical care before in 1986 becoming chief executive of a large, relatively rural, psychiatric service with two large psychiatric hospitals and community facilities. It had a budget of approximately ten million pounds. That is equivalent to 15 million dollars or 40 million shekels. After that, I moved to Cheltanham, a more urban area, with five acute hospitals, approximately 800-900 beds and a budget of between 30 and 40 million pounds.

I think the first issue is why did I become interested in TQM as a chief executive. Prior to 1989, in the health service in the UK, the main way that we offered (and still offer) high quality care is through the professionalism and the training of our different types of staff. All the staffs in the hospitals have very different levels of training but they are all professionals. This then was enhanced in the late 1960s and early 1970s by a phrase often used by the nurses called quality assurance. In the UK, this predominantly has to do with the setting and monitoring of standards of nursing care. The nurses and what we call our hotel services, our domestic portering services, are the key people who developed quality assurance processes in hospitals and community services in the UK.

But, in 1989, the Department of Health thought that maybe the successes gained in the manufacturing industry, using what was called TQM, might be applied within public sector health services and started to stimulate interest. We were one of the areas who put themselves forward and were chosen to

receive money to begin to look at what TQM was all about. I remember, in those early days, I'd never heard the phrase before but as soon as I heard it and people discussed with me what they thought it meant, it immediately seemed to fit the style that I and my managers wanted to use. It was common sense. But, at that time, there was a bit of a dilemma and I think it is a dilemma that maybe you here at this conference are also facing. There was tension, or you could call it the question of balance, between very systematic, scientific process control, on the other hand, and the cultural, human relations, staff empowerment side of TQM, on the other. Very often, if you talked to people, the discussion became very polarized. I remember a person who was very influential with developing the strategy for the Department of Health, who was absolutely certain that cultural values would pervade, continue and really produce the gains. Someone like myself, at that point, from a fairly scientific background, had a much more scientific, "let's measure what we know" type of approach. Obviously, TQM, as we've heard from all the various speakers and discussions, is about both.

I would like to make a point here about chief executive style. Working with staff, at whatever level, has to be a highly collaborative process. I find discussions about giving up control intriguing because chief executives don't have control. It is a fantasy. It's a fallacy. You can't have control over health care in hospitals. It is impossible. How can one person, one management group, have control over the multivarious processes going on inside a hospital? It's impossible. So I don't think it is a matter of purely giving up control but, obviously, there is a tension between control, regulations, rules, standards and the excitement of the potential to change things and innovate. Chief executives, like everybody else, like doctors, like nurses, have to try and find a balance.

TQM is about achieving and wanting improvement. It is about being intolerant of poor quality. It is about being able to say "I'm sorry" or "I was wrong". It is about being time-efficient. Most people that I've worked with, in hospitals in all parts of the world, have problems with managing their time. How many of you have had any training in time management? Have a look around - very few people. I haven't got my hand up. Very few people in any group I talk to have had any training in an important skill - managing their time. So it is hardly surprising that many of us, if not all of us at some time, are not very good at managing our time, even though we try very hard.

It is about having a bias for action. I think many of the speakers and many of the people in the audience have shown that they have a desire to get things done. It is not just about talking about things. Sure, we talk. We identify

problems. We identify obstacles. Then, the time is for action. Very early on in my career, one of my bosses taught me the phrase, "a bias for action". A bias not for the perfect solution, because very often today, the perfect solution is unattainable - but the 60-40 solution, something that is slightly better than what we've got today.

Another concept is vision. A chief executive has got to have a vision. We heard John's vision for his hospital. I suppose, if anything, my vision is related to the core values of total quality that we looked at in my presentation yesterday - my vision is to see whether those core values really were in place in the organizations that I was privileged to lead. All the buzz phrases we use make a lot of sense. They seem very simple. I'm sure if we asked each other, do you believe in that, we would say, yes. Yet, of course, our commitment, our understanding and our ability to put them into practice varies considerably and I'd just like to give you a very small number of examples.

Putting the customer first - Doctors, nurses, paramedical staff work with one individual patient after another: individual diagnosis, treatment plan, treatment, discharge and so on. They put the customer first. But what about when the visitors want to come onto the wards? How many of the wards that you have, have open visiting? Those of you who run busy clinics and see patients, if a patient with a three o'clock appointment comes at 3:20, how many of you fit that patient in more or less straight away? How many of you say to the patient, "I'm terribly sorry, if I do that, I'll keep all my other patients waiting twenty minutes" and put them in maybe near the end or if there is an obvious gap. How many of you reschedule the appointment?

Customer expectations - We're now more and more in the business of understanding what our patients, beneficiaries, clients and customers want of us and trying desperately to delight them and meet their expectations. But I think we professionally find that very difficult to do. Most of the time, as professionals, we think we know what's right and the problem is that most of the time, we are correct. But ten percent of the time, we will always be unable to predict exactly what that particular patient requires.

I remember working with an obstetrician in the UK who had a very busy clinic. One way of dealing with that was if a mother came along and was very fit and well, he would put his hand on her tummy, feel the baby, and say, "Everything is fine; You're healthy aren't you?" If she answered, "Yes," then he would say, "Thank you very much. See you in another few weeks." Fifty seconds in and out. That mother maybe had been waiting for an hour or two

for the appointment. To go in and have only fifty seconds, was not very good customer care. She felt a little bit like a chicken on a factory line.

When the obstetrician was given this information, he put his hand on my arm and said, "All the mothers in this particular location are stupid and unintelligent. It doesn't matter if we only give them fifty seconds." Very arrogant, very dismissive. When I pointed out that I thought that wasn't the most customer-sensitive comment, he changed his view and said, "I didn't mean that" and so on and so forth. But there is a very common view that says "I'm a professional - my patient's idiosyncratic views are not that important."

Another rather amusing but rather black comedy example was in talking with staff about customer responsiveness to palliative care, a terminal care unit where patients came in usually for the last two weeks of their life. We were talking about how we use customer responsiveness to find out what those patients think. Now, obviously, this is a more difficult situation. An older member of the staff said, "I suppose you think we should hold a seance to get in touch with the dead and ask them how the treatment was." Okay, that was, like many things, beyond my powers to do - but there are other ways of getting information back from people who are dying or who are very physically or mentally disabled. We have to confront that and the chief executive has to lead the way.

Getting the service right the first time - One of the key problems in many of our hospitals is that we are not quite sure what the service should be. We're not quite sure what all these processes should be. What are the excellent processes, the excellent standards, the excellent protocols? It is actually difficult to define them. Professionals often don't want them defined because if they are defined, then TQM is alive and well and their processes can be under scrutiny. Maybe they confuse their own personal behavior, which is not the target, with the processes under scrutiny.

A lot of staff have a pre-TQM attitude that they're doing their best. The chief executive has got to support staff, to feel that, yes, of course you are doing your best but I imagine both of us could maybe do better tomorrow.

Reducing costs through quality improvement - To say that all your hospitals, whatever they are funding, are probably ten percent inefficient is not a criticism. It's an opportunity to find that resource that is being wasted in terms of time, materials or manpower. But staff will not get involved in that if they think that once they've identified that resource, they will lose it to some other

department or hospital. The staff has got to feel empowered to not only find the resource but to improve the quality and then reuse that resource, at least in part.

In terms of working with staff, there are two or three things I'd like to mention. I'm intrigued with another set of initials - MBWA, managing by walking around. It gets you out of your office. That's why my door is open and I'm never there - because I'm doing that. This is very difficult to do in a large organization - to schedule walking around time to show an interest in people's quality initiatives throughout the hospital. Managing by walking around takes literally about three months to do. To walk around and make any tangible contact with people takes a long time and very often, when you walk into units that you don't know a great deal about, it makes you feel quite odd.

A second thing which is a very powerful vehicle, which I'm sure many of you use, is the open forum type of meeting. These are large meetings once a month, with as many staff as wish to come. The only rule is that you stay for the whole hour. What that is doing is saying, "let's be committed to at least staying for the presentation".

All the things I'm saying apply to every member of the organization - but the chief executive in particular has got to be responsive to his or her various customers. The first beneficiary obviously is the patient. The chief executive has got to welcome complaints. I know, sometimes, when that complaint letter lands on your desk, your heart sinks - but the sign of a good organization is where you welcome complaints about poor quality. It gives you an opportunity to change a small element of your service. One of the very first complaints that landed on my desk in my second job as chief executive of the acute unit was from a lady of about 40 who was not complaining about the care that her terminally ill husband had received but the way in which he died. There was a total lack of communication about whether and how he was going to go home for the last few days of his life. Almost everything that we conceivably could have done wrong we did wrong and she was writing in an effort to get some form of personal apology from the hospital. She wasn't going to sue us but she felt thoroughly fed up about it. We did deal with this complaint very well. The nursing staff dealt with what had gone wrong; they were very open and very apologetic and met the wife several times. The wife was astounded that given the poor communication in our hospital in relation to her husband, how well we dealt with it. She gave us a donation of 10,000 pounds. It was a fascinating experience.

The chief executive's role as a customer is crucial. A manager, a senior manager, receives services from the entire staff. It is important, as a customer, to give feedback to staff about how well they are doing and areas which aren't going very well.

What about the chief executive, not only as a customer but as a supplier of services? Most people would say, yes, the job of the chief executive is to lead, to take all the responsibility, to take all the problems home with him or her and supply a good service. But I wonder how many chief executives and managers in the audience have promoted clinical standards in your hospitals? How many of you have asked your doctors and nurses to have clinical standards of care? Those that have, put your hands up. Have you also got senior management standards - explicit, written, monitored management standards? A couple of shy hands are going up. It is very intriguing. In the UK, for the last ten years, we've been inviting every member of our staff to write standards but I don't think I've come across a hospital that has explicit management standards.

I wonder what a good quality chief executive is, a good quality manager? We heard yesterday that they're accessible, that their door is always open. If you have an urgent problem or an enthusiastic issue, you want to share it with the chief executive. When you get there, you want to find someone who is approachable, someone who is interested, someone who looks at you as opposed to their watch or someone else in the room. You want their attention. You want their enthusiasm, even if for you it is a big idea but for them, maybe it is a very small idea. They need to be approachable.

They need to be able to deal with tension and conflict and argue both intellectually and emotionally very easily. Life is about tensions. We've seen that in fascinating ways at this conference - the political situation, the organizing committee's discussions about this year and next year, intellectual issues that have come up. All sorts of tensions. We have to be able to deal with those adultly and we all know that our ability to do that varies. The good managers and the good clinicians are able to do that.

When you phone one of your staff and they pick up the phone, is the second thing that you say "Excuse me, have you got time to talk to me?" How many of you honestly, as well as saying, "Hello, this is whatever your name is," then say, "Have you got a moment to talk?" How many of you, if you're honest, do not usually say that? The assumption often made by chief

executives, as a way of showing their power, is "I phoned you up, therefore you have time".

If you're having a conversation in the corridor with somebody and it is five to eleven and the person says, "I really must go at eleven o'clock, I have an urgent meeting and I don't want to be late" or, "I have a patient that desperately needs to see me", how many of you actually actively help that person to leave the conversation? How many actually think, I must make sure that he gets away, so that he is not late? Again, you see the point I'm making. Do we actually help people? Do we give good customer care to our colleagues to make their lives easier, to help them manage their time? A lot of silly examples but I'm sure you understand the point I'm making.

I'm going to sum up a little bit. In terms of lessons learned, it is absolutely crucial to celebrate success in quality terms, when people at any level have developed a good-quality project. I've mentioned about matching managerial styles. We have heard that it is relatively easy to establish TQM in a service. But what is excruciatingly difficult is to keep it going, to maintain the momentum, to ensure that training is provided. In almost every aspect, quality teams, process control, customer responsiveness, management development, clinician's involvement, audit, outcome orientation and so on, we all need training in many of these new ideas. The investment in training is crucial.

Many aspects that we've heard over these two days, in terms of process improvement, customer responsiveness and staff empowerment, were implemented in a very simple way. If we start to implement TQM in a very rigorous program with quite a high level of expectations, it's less likely to get off the ground. I think that is true of many hospitals all over the world. Many ordinary hospitals, run by ordinary managers and clinicians, need a very ordinary model of TQM that is going to be straightforward and understandable, otherwise, in many places, it doesn't take off.

There was a study recently done in England and Scotland on the first 23 hospitals to implement TQM since 1989, to evaluate what the success factors were that made it work. One of the success factors was a committed chief executive. Obviously, those of us in the room that are chief executives are totally committed. Many of us, however, will work in systems where we are not the chief executive but we are maybe the next level along and many people will be thinking, "Well, I wish my chief executive was like some of the chief executives we've talked about but he's not". What do you do in that situation? You need to work subtly or sometimes unsubtly to encourage your boss to

adopt this idea because, ultimately, it will not work unless the chief executive is fully committed.

A final success factor - I won't go through the whole list - is for organizations in managing change to have external support or external training or consultancy. You need to have support that matches your style, your orientation, your attitude and your needs. Make sure you know what your hospital's or service's needs are before you go outside to get external help. But most organizations do need the spur of some outside support.

I'd like to finish on a note about time and resources. I believe that public health care is such a high profile business both for governments and for the public that funds are available in most countries in different ways for some hospitals. But in the absence of funds, the resource we then have is our time. I'm sure you and I would agree that there's lots of wasted time in all our organizations, even though you and I are trying our best. There are elements of time wasted that can be identified using quality control and quality management. That time is then available for some of our quality management enterprises.

I think I have a few minutes left for some questions.

Question: Today and also yesterday, there was much emphasis about our commitment to the customer and I want to make a provocative suggestion that this is not always possible. You gave two examples about the pregnant lady and about the dying patient - which are extremes - but I want to suggest something in the middle. Let's say that one of your patients was a boy who had been riding a bicycle without a helmet and sustained a very severe brain trauma. He remained alive, with very severe motor disturbances, cognitive disturbances and speech disturbances. What are his expectations? I know what his expectations are. He wants to be well again but I can't provide it. What is your answer to that?

Hugh Koch: I'll give you a reaction. It will just be a personal reaction in terms of understanding that particular patient's expectations. If there is some level of brain damage, he is not going to be able to articulate his wants, although we know from lots of studies and clinical experience that patients who sometimes seem less than conscious actually have windows of awareness and it applies to patients like that, patients on the operating table and so on. But I know that wasn't quite the point you were making. There are, of course, other customers, that is, the boy's mother and father or some form of advocate

or friend who can discuss with you pertinent decisions. Examples like that can make the consumer responsiveness model seem inappropriate. But there have to be ways of combatting just our professional view because we know that if we look back in history, our professional views have been wrong in all sorts of ways. This is not a criticism. It's just a comment. Would you like to respond?

Response: I didn't mean in the acute phase, immediately after the accident of this boy, if we take this example, but let's say a year later. He is on a rehabilitation program and he is not improving. It is very hard. Right now, we are in court about a case like that because they are expecting us to cure the case, which is incurable.

Hugh Koch: Well, yes, that's immediately what we would say, wouldn't we? They're being unrealistic. In many ways, maybe they are but let's just be a little bit more challenging. How do you know you're offering the best rehabilitation? Do you mind if we explore this example?

Response: I know there are cases where, for three months, the patient does not improve but after one year, he does. So what can I say after three months? Now, the family comes and says "How do you know?" Well, I don't. I don't know for sure. So what now? But this was not my main question. My main question was that there are cases where we cannot meet the customer's expectation. Do you agree with that?

Hugh Koch: I agree that we often feel that but in almost any specialty, we could all come up with examples where we thought at one moment in time that we were doing our best and someone had an unrealistic expectation. It happens at home all the time, doesn't it? But then, later on the next day, we suddenly were able to come up with something new.

I agree with what you're saying in some instances because I think we're good at being the professionals who are doing their best. But I think that we find it difficult to confront the fact that I do feel I'm doing my best - but I know from experience that there's something around the corner tomorrow that I can do better. And it is very often our patients, the families of the patients, who push us and say, "Well, actually, you're very good but I think something better can be done." TQM tries to challenge the protectionism of our firm beliefs that we are doing our best and we can't improve. Nearly every time, if you look at a process, any of the examples we've used, around the corner there's always been some small improvement.

Session VII . . . . . .

Lessons Learned from Efforts to Improve

Miriam Ines Siebzehner: It's my honor to introduce again Dr. Mitchell Rabkin who has been President of Boston Beth Israel Hospital for 29 years. Dr. Rabkin is going to talk about Lessons Learned from Efforts to Improve.

Mitchell Rabkin: Thank you very much. As we heard yesterday, basic concepts underlying TQM came out of engineering when Shewhart and then Deming pointed out that you cannot blame employees for the inherent statistical variations of a stable manufacturing process. They founded the basis for a new way of looking at quality. But it was more than an engineering finding; it was really an insight into human nature and it has led to profound and productive thinking on engineering, as well as on the sociology of the workplace and its influence on product and performance.

What I want to describe this afternoon is our efforts at Boston's Beth Israel Hospital to rework the sociology of the workplace so that among other things the activities that we've been calling TQM can take place more readily. At my conclusion, you might argue that what we've done at BI, Beth Israel, is not necessarily TQM but remember, as Dr. Berwick pointed out, this is not a religion. Rather it is a way to have a fresh and productive look at our work and to improve its performance.

At Beth Israel in the mid 1980s we were very concerned that our continuous efforts at cutting costs would lower the quality of our services and would lower staff morale. This led us to explore the idea of incentives for performance. Are there ways we could reward performance with incentives? We contacted an organization called the American Productivity Center in Houston, Texas that taught us about a variety of initiatives. We were especially attracted to one called the Scanlon Plan that seemed well-suited to our hospital's culture. It was a program that had had some success in factories in the Midwest. Now what the Scanlon Plan is, is a philosophy. It is a way of looking at the sociology of the workplace. It is a theory of organization and a set of management principles. The basic assumption is that people desire to express themselves in all situations, including at work, and when they do so at work, they can be constructive in helping the organization achieve its goals.

These positive attributes of people are most evident when all members of the organization participate as fully as they can in its activities and also when

workers feel that they are recognized personally and are rewarded equitably for participation. The general philosophy of the Scanlon Plan is practiced through those principles of management that encourage people to identify with their job, to identify with their work group, and to identify with the relationship of their work group to the overall enterprise, to the entire organization. So the Scanlon Plan is a fluid process that enables all workers, if it is successful, to effect change. It is not a system of rigid rules.

In 1930, a man named Joseph Scanlon, a steel worker and a union leader in Pittsburgh, Pennsylvania was working at a small steel company about to go bankrupt. He was able to convince management that the application of these ideas could save the company. The management let him try his ideas out and indeed, they worked. The company was saved and he went on to the United Steel Workers where he worked to create better union-management relationships. Ultimately he was invited to be on the faculty at MIT where he joined Douglas McGregor, a theorist about management. His Theory X, Theory Y is something that some of you may know about.

As originally envisioned by Joseph Scanlon, the plan has two mechanisms by which to achieve its goals. One is a process designed to ensure that all members of the organization have an opportunity to improve productivity primarily through an open suggestion system. This involves a committee structure among workers that encourages and evaluates those suggestions, takes action, and communicates back the action that's taken. And it does all that fairly quickly.

The central concept which is not unique, of course, is that the person who is doing the work usually has pretty good ideas on how to do it better. A simple illustration might be, in the United States, for example, that the staff in the admitting office recognized far sooner than top management did that as there were more and more same day admissions for surgery, that the admissions process which had been designed to have the patient come in the day before surgery, was no longer efficient. Now if the admissions staff didn't have the opportunity to identify the problem, bring it to management's attention and suggest some ways to solve it, there could have been a loss of efficiency and the staff could have become alienated. The staff could simply have said well, those people upstairs don't care about the work we do. They don't care about the patients.

Involvement of the individual worker means simply that you try to create the *opportunity* and the sense of *responsibility* to influence the organization's decisionmaking within whatever area of competence any worker has.

The other mechanism of the Scanlon Plan is a means of providing equitable rewards for all members of the organization. This derives from the concept that people should know not only how their job or their department relates to the larger mission of the organization but also how the organization is doing overall. When there is improved productivity, employees ought to know about it and the rewards should be determined fairly and distributed equitably through the sharing of any gains that might result.

After all, when someone invests his or her time and effort in an organization, he or she should receive a fair return on that investment. To the extent that people invest themselves in working together to achieve the purposes and the goals of the organization, it is reasonable that they should receive a fair return on that investment.

These two principles, the involvement principle and the reward principle, made sense to us. We have at Beth Israel in Boston a tradition of openness and sharing and fair treatment but yet, it is not just one big happy family where there are no differences. This actually encourages differences but differences of a unique kind. After all, if you have a better way to do your job than the manager has decided for you, that's a difference. And the Scanlon Plan helps to create a climate for individuals who have these common goals to voice their differences and then to resolve them in a cooperative manner, yet it does not weaken the right or the responsibility of the manager to manage. It is a very important concept. The manager is still the manager but the idea is that suggestions can come forth and should be seriously considered, evaluated and either accepted or rejected.

In addition, the Scanlon Plan ideas offered us several other advantages. In the world of health care where there are dramatic changes every day, the Scanlon Plan presented an interesting way for us to meet the ongoing problem of change. Secondly, if it were successful, it could lead to a large number of employees and medical staff who would begin to own the problems of quality, productivity and efficiency. They, in daily contact with the patients, would then demonstrate positive attitudes toward the necessary cutbacks and restrictions of money and so on. It is certainly far better to have your hospital employees feeling, "Well, times are tough but at this hospital, we're managing", rather than having the employees feeling victimized by the external

circumstances or worse yet feeling that the management of the hospital is pushing them around in order to achieve the economies that they seek.

All of this sounded very good, as we learned about the Scanlon Plan, but there was also something very amorphous. It was like punching air. We liked the concepts but they were hard to grasp at first. So we went to Zeeland, Michigan to visit the Herman Miller company. Herman Miller is a furniture company which has had a Scanlon Plan in place for 40 years. We met there a very interesting man named Max Depree, the chairman of the board, and many other executives. We toured the plant and we talked with workers on the floor and we were astounded. The first thing that struck me was when the chief operating officer said that every single product they make had been improved either in design or in the manufacturing process by someone on the factory floor.

But what was really impressive was when I walked out onto the shipping dock. There was a dock worker in the shipping room. He was a huge guy. His arms were about as thick as his neck. His neck was as thick as his head. He had tattoos all over. He looked tough and I said to him, "What's so important about your job?" He looked as if I had insulted him. He said, "What's important about my job? Look at that desk." There was a desk that they were packing up. He said, "That is cherry wood. Right?" I said, "Yes." He said, "That has drawers on the right hand side, right?" I said, "Yes." He said, "Well now, suppose the guy who ordered this from Kansas City ordered a walnut desk and suppose he ordered drawers on the left hand side. What happens? He opens up the crate. He says oh, my god. Who do you think pays to re-crate that desk? Who do you think pays to send it back to Herman Miller and where do you think he is going to buy his next desk? Somewhere else. Not here." He said, "What's important about my job is that if it were the wrong thing, it would eat up our profit." "Do you know", and this time he is pointing his finger right on my chest like this, "Do you know that in Korea, they can make this for 35% cheaper? So what's important about my job is: Is Herman Miller going to be a company of 2,000 people that make furniture or are we going to become a company of 20 people that import furniture?" I looked at this fellow and I thought - here's a man who works at the shipping desk and he feels like he owns the business!

Well, we felt that this was something we really ought to do even though the Scanlon Plan had never been tried in a hospital. It had never been tried in a not for profit organization, or a service organization as opposed to a manufacturing organization. And of course, in a hospital, as you know, you

have the unique role of physicians and the problem of a high turnover of employees (more than in many production organizations), plus the complexity of all our services. We wondered whether we would be able to make this really work.

We began with education. This is a major revision of the sociology of the workplace. You don't simply say, "Do it." You can't simply say that top management is committed and the rest will follow automatically. It was a question of educating everybody in the organization and then eliciting their cooperation. I and other top managers began educating small groups of 10 to 15 people at a time, not saying to them we're going to do the Scanlon Plan. But rather we said, "Look, here are some ideas we learned about. It is all very vague and so on but do you think it is worth exploring further"? That was all we asked. And we asked for a vote but not for a show of hands. We asked them to write their vote on a piece of paper and fold it over so they wouldn't be influenced by those who raised their hands. It was a secret vote. About 90% of them said we should explore it further. About 10% said you are crazy; forget it.

We went through the entire hospital, about 4,000 people, that way with groups of 10 to 15 and we wound up with overwhelming support. We decided to call our program PREPARE Twenty One, which really stands for Prepare for the 21st century and each letter represents a key aspect of the program - participation, responsibility, education, productivity, accountability, recognition and excellence for the 21st century.

There was a committee of about 75 people who were then elected by all the employees from all segments of the hospital and they represented the entire demography of the hospital. There were entry level workers. There were physicians. There were executives. There were all kinds of people. They were subdivided into three groups of 25 and their job was to develop the three major components of this Scanlon Plan.

The first component has to do with *identity*. Who are we? What is this organization? Where are we going? The second is *participation*. How do employees' suggestions come forth? How are they dealt with? How does the information about the suggestions move throughout the organization? How is action taken? The third component has to do with *equity* or sharing of any gains.

The group of 25 people, the identity subcommittee, developed a document which described the mission of the hospital, the history of the hospital, the health care environment that we face and the relationship of the success of individual workers and individual departments of the hospital to the overall success of the organization. It also described our philosophy of change.

The participation subcommittee addressed the importance of working together to achieve hospital goals. This collaborative effort is the cornerstone of Prepare 21; it is carried out by what we call work teams which are generally the equivalent of the individual departments. The work teams generate suggestions that focus on improving quality or efficiency within a particular department. There can be other work teams, of course, with ideas that cross departments since so many of the processes that we do cross from one department to another. Thus there are adhoc work teams that might be formed when a particular idea involves various groups. So there are these work teams and the participation subcommittee described how they would work together.

The equity subcommittee dealt with the idea of a fair return. It defined how we would share any gains, dollar gains, that resulted from the Prepare 21 program. Now our initial concept was that whatever gains we measured would have to come from reduced costs or increased revenues but only those activities over which employees have some control. By contrast, the activities over which employees have no control like depreciation or interest payments would not be included in the gain calculation. We felt that this system of gain sharing had to be understandable. It had to foster a sense of ownership and also that the dollar rewards should be distributed across the organization because we wanted to reinforce the idea of team work. It was not thought of in terms of does your individual department show a profit; your department may do well because some other department is helping you considerably. Also there are departments that have no revenue. If you walk into the hospital and someone at the front desk is very helpful and friendly, then the patient has an immediate response that this is a nice place to be. That department has no revenue and yet that individual is in part responsible for the patient's positive response to the institution. So whatever gains there would be, would be distributed equitably across the entire institution.

The result of these three subcommittees was a booklet written in a user friendly format. The text of the document was on the left hand two thirds of each page and the executive summary was on the right hand third so that you could read just the executive summary but if you wanted more detail, it was available right there. That's a useful way of presenting a large amount of

material for easy access to a diverse readership. The booklet was published not only in English but in Creole, which is a Haitian-French language, and in Spanish because we respect the ethnic mix of our employees and, of course, the importance of having everybody ultimately buy in on this.

We used illustrations in this document to show the way an idea would move through the system. We then went with this document - it's a big book of about 70 pages - and a projection of what our gain sharing might be in relation to the operating bottom line, to our board of trustees. We had kept the board of trustees informed of the project but we went there for formal approval. The board of trustees was very hesitant because after all, the idea of formally sharing any improved bottom line, any profit with employees in a not for profit institution, was something that was radically new. But they did endorse the plan once they understood the overall thrust of our intention, namely, that we would continue to make an operating budget that was as tight as possible. We would not play with the budget in order to look good on gains. But, we said, anything better than the best budget we can make that results from the action of employees - more admissions, less expenses and so on - we will look at as found money and we'll divide it half to the employees and half to the hospital.

The board decided that they were willing to try that, a 50-50 share, half for employees, half for the hospital. So from 1985 when we first learned about the Scanlon Plan and then from the beginning of our exploration of a plan in 1986, there was a long program of education before we finally got an okay, first from the employees because they voted again on the big document, and then from the board of trustees. Now, of course, it was very important that both employees and trustees were kept informed throughout this whole process knowing that we would be coming to them to seek their formal approval. This plan then has been working in full since October 1989. Our director of training and organizational development also took on the job of coordinating this effort, making certain that the suggestions were followed up in the appropriate way and that there was help from many other departments in the hospital: public affairs, finance and so on.

You don't just institute such a plan. You use many communication mechanisms to keep people aware of what's going on. In our employee newspaper, the *Beth Israel Examiner*, each issue carries a great deal about Prepare 21. You must remember the importance of communication. Think about Coca Cola. Coca Cola is the biggest selling soft drink in America and yet, they advertise the most. The importance of continual reinforcement, frequency of the

message, can't be underestimated. So in each issue of the *BI Examiner* we have a centerfold which features new ideas that have been offered by employees, ideas that either increase quality or cut costs and this, of course, is a very important way of providing reward through personal recognition or recognition of the work of a department.
If the rewards were only the dollars in profit sharing, given all the economic pressures that hospitals are subjected to, the program wouldn't work. The rewards have to be psychological as well and personal recognition in publications is very important. The actual dollar rewards that we've come up with from time to time - and we often have not had any gain sharing awards - have been relatively small. We use a separate check, different from the regular paycheck, and it is almost a token which says you are managing in a difficult environment rather than here's a lot of money for your reward.

There are other important communications. I have a weekly bulletin to the doctors called the Dear Doctor Letter and a weekly bulletin to the employees called the Employee Newsletter and that is also in Spanish and Creole. And then every once in a while, there's an occasional special newsletter that we call PrepaReport.

We have special forms for submitting ideas and increasingly smooth methodology for reviewing these ideas. All of them are acted upon. All of them are fed back to the person who suggested them. Initially the idea form was very complicated but it has been simplified over time because this is clearly an evolving process. There's a monthly publication every employee gets and it lists all the ideas that are submitted on the left hand column, who submitted them and what their department is and what action is being taken on the right hand side. And so people get credit for that as well.

We do not hesitate to reject an idea that is impractical. But if we reject it we give the reason for turning it down. It is not embarrassing to submit an idea which is rejected because the philosophy is that you've helped to identify a problem. Maybe it will help us to understand an idea that will work. So nobody feels embarrassed about an idea that's not accepted. Not only does the monthly idea report list the ideas that have been accepted, it also lists the specific dollar savings that result if they can be calculated. Nurses and other clinicians have suggested substituting one drug that's less expensive for another. You can calculate from usage how much will be saved or other ways of saving on supplies and expenses. And then those dollar savings are calculated in what we call the gain sharing calculation.

Every four weeks, to let the employees know how we're doing, we issue what we call a PREPARE 21 Period Performance Report. We have 13 four week periods in each fiscal year. It is handed out through the managers of the different departments. We meet with the managers every four weeks so that we can discuss what they should be talking about to their employees with respect to this report. The cover page comments on our performance for that particular fiscal period and for the year to date and it gives some of the reasons for major variance. For example, it may say that we've had more admissions than budgeted or we've had fewer admissions than budgeted or more outpatient visits and so on. We are continuing to work on the graphics because we want to make it as clear as possible. This report is also in Creole and Spanish.

The inner pages graphically display some of the statistics - adult discharges, outpatient visits, length of stay, case mix. It talks about how we're doing compared to budget and compared to last year. So every employee knows these things. We also report operating income and salaries, just like the quarterly report to stockholders in companies. We've also separated the expenses that employees can influence from the expenses that they cannot influence so that they know how the gain sharing is calculated.

What kind of results have come from this? In the first year, October 1989 to September 1990, our best estimate is that we were able to save maybe one to two million dollars as a result of PREPARE 21, as a result of the ideas and the budget control that employees provided out of this program. Five hundred and ten ideas were submitted. Forty six percent were carried out. The documented savings of those ideas was only about $100,000 but mind you those were only the savings that could actually be documented in very strict terms and that was for less than a full year.

Many ideas will have future payoffs. Other ideas, of course, had to do with quality issues where dollar savings could not be documented. And it was very important that we press the importance of ideas to improve quality because we did not want this to be simply a program that focuses on saving money. We wanted it primarily to be a program of improving quality.

Now, in retrospect, we see that many of the initial ideas were very narrowly focused. People looked at their own work, at their own department. Broadening the scope of ideas, thinking about multidepartmental systems, thinking about processes, about the way the patient moves across the institution as we discussed yesterday and today, these are major targets in terms of

education of employees year by year. We're trying to increase their awareness and understanding of the importance of thinking about processes.

All told, in that first year, the PREPARE 21 gain that we paid to employees was 0.7% of their total salary. So you see that's not very much. We also made certain that for the more highly paid executives, there was a cut off salary so that the top executives didn't drain all the money away from the lower paid employees.

Toward the end of that first fiscal year, we invited a distinguished external task force to evaluate how effective the PREPARE 21 Program was and to give us what they thought midcourse corrections should be. They were clear and helpful in terms of their critique. They observed that there is a problem when you have so many new employees coming in each year. It would be important to emphasize more strongly the relationship between the hospital's mission and what this program was really doing. Too many people still saw it as cost saving and not as an idea of quality first and foremost. We've been good at solving certain narrow functional problems but less effective in dealing with system's issues. We were less effective in that first year in terms of crossing departmental barriers. And they also said some of the forms we were using were very complex and difficult to understand and needed simplifying. We've acted on those comments. We have invited them back every couple of years and this task force has been very helpful as external reviewers.

Now we've just concluded our fifth year and indeed, our focus has broadened to pay more attention to systems. We've added an internal quality improvement consultant and are incorporating more and more of the principles and the practices of TQM, some of the specific practices that you dealt with in the simulation exercise earlier this morning. At all levels it is very important to use these TQM concepts because of the very fundamental question - how do you know you're doing better if you can't measure it. At all levels employees have got to define ways of analyzing and describing their work and their results through flowcharts and other simple and straightforward graphic and quantitative ways. One must quantify performance and measure it and that includes developing standards for quality as well as standards for productivity. Only then, it seems to me, if you have standards for quality that you can define, can you place quality above the primacy of feeling that people seem to have about costs as being most important.

The importance of enlightened managers who can coach employees in their use of these quality tools and who can engage employees in active problemsolving

cannot be overestimated. Our training department has developed a very intense, 40-hour leadership development program which all of our supervisors go through. We also conduct what we call value-based interviewing so that job applicants are screened in terms of their skills for participation and their skills for teamwork as well as for all their other credentials.

I'll give you an example of one of the things that we've done. We identified a problem a couple of years ago in the department of diagnostic radiology which does CT scans. Many patients were arriving late for their CT scan and what that meant was a very expensive machine was sitting idle while we were waiting for patients. So we said well, who's involved? Who was involved were the CT technicians, the radiology secretary who calls for the patient, the transporter who moves the patient down from the nursing unit to radiology, and the nurse who gets the patient out of bed and ready to move. So we called these four groups to a meeting and it was very interesting to think about the sociology of the group. There were nurses, many of whom had bachelors degrees or masters degrees, in one corner. The radiology secretaries were in another corner. The transporters, many of whom had only high school or even less than high school education and many of whom were minorities - black young men mostly - in still another corner. So there were nurses, secretaries, the radiology techs and the transporters. Each one was in a different corner of the room and each one arrived with a paper which said why it was not their fault.

We used the typical techniques of TQM. We began by saying that there was, in fact, a problem. They decided that first we'd better measure it. We educated them about doing histograms, that is, how long is the delay. Also, how many patients are there due to each kind of delay. When they saw this, they said they hadn't realized that the problem was this bad. If you take the average delay, the mean was somewhere around twenty minutes. You can imagine if every patient is delayed twenty minutes, all you need are three patients delayed, and you actually lose an hour of use of your machine.

Then they began to talk about what happens and to do the kind of flowcharts that you were using in your exercises this morning. All of a sudden what began to happen was very interesting. Someone in one group would say: "Is that what you call on-call time? That's not what I call on-call time. I didn't realize that you meant this because I meant that". And interestingly, from a group of four isolated departments, they began to come together and form one group because they were beginning to become empowered, to deal with the problem and to recognize that each of them was a good guy. There were no

bad guys in the whole crowd and they finally decided to create from the flowchart a new system with common understandings. And the first results are that there's been an improvement. No longer is the mean about twenty minutes. They were very encouraged to see that their ideas and their work could begin to make some changes. So they then really got serious and began to implement another newer plan and achieve even better results. They were really very proud of that.

We're getting physicians more involved too. They buy in when we talk to them about improving the quality of care through first improving the quality of the systems by which they deliver care. When they see that TQM works, they begin to use the same processes for the clinical aspects of care.

But, overall, I would say, we still have to define our expectations better. We still have to improve the training. It is an ongoing process. We still want to increase the literacy and the sophistication of all the employees and all the medical staff. This is an ongoing effort and it never ends. Changing the sociology of the workplace is a slow process. People involved in the Scanlon Plan in other industries that we have met have told us it will take years of constant effort: It will be five or seven years at least before your Scanlon Plan, PREPARE 21, becomes an intrinsic part of the fabric of the organization. We talk about weaving this into the fabric of the organization. People seem to like that idea and it makes the notion of years of effort much more palatable and much more understandable.

So you see, PREPARE 21 at the Beth Israel Hospital is not simply the Scanlon Plan or TQM. It draws its basic ideas from Joseph Scanlon. It includes components of the ideas and techniques of Total Quality Management, the work of Deming and Juran and others in that area, and importantly, it also reflects the culture and the values of Boston's Beth Israel Hospital. It incorporates our own ideas of management as well. We expect that PREPARE 21 will continue to change as we ourselves learn and grow and also as the environment around us changes. To the extent that this does improve the quality of care at Beth Israel Hospital, to the extent that it can lead to gains in efficiency and gains in economy, and to the extent that it also helps employees and patients and medical staff feel better about what's happening to them and what's being accomplished at their hospital, then the program will be a success. Thank you very much.

Miriam Ines Siebzehner: Any questions?

Question: How do you adapt equity sharing with staff in nonprofit organizations like health institutions that offer free services?

Mitchell Rabkin: Well, if an institution doesn't charge fees at all, it still has a budget. But, as I said, if it is impossible to come down with a bottom line that's better than zero, or if you always are going to have a bottom line that's in the red, then you have to rely upon other kinds of recognition. We have many other kinds of recognition. We have photographs. We have a week where we celebrate the ideas of employees. After all, people want to do well. If people are told and thanked and appreciated, that represents a kind of very positive recognition. What we do though in terms of the distribution of gains is related, as I said, to a percentage of your own salary. Everybody's gain, if there is one, is a percentage of their salary except if an executive salary is involved. Then the percentage that is calculated is limited, so that it doesn't eat up the money for the people who are at the entry level. That's the way that we do it.

Last year, for example, was not a good year in terms of the economics and we did not have any dollar gains during the entire fiscal year and yet we had lots of rewards and recognition. As a matter of fact, we submitted what the CT scan team had done to a national contest. They won a prize and were invited to a luncheon in Washington. Then, later, it turned out that Swiss Air gave them an award and the leader of that team got a free trip to Zurich. There were other kinds of rewards as well.

Session VIII . . . . . .

Challenges in Implementing TQM in Different Medical Settings from Various Professional Points of View - Panel Discussion

Miriam Ines Siebzehner: We are about to begin the last session, a panel discussion on the challenges in implementing TQM in different medical settings from various professional points of view. It's my pleasure to introduce the panelists: Mrs. Orly Rotem, Director of Nursing at the Hadassah Medical Center; Dr. Joseph Frost, Director of Kaplan Hospital; Dr. Shouki Hard, Director of Ramallah Hospital; Dr. Hassan El-Kalla, Director of the Cost Recovery Project for hospitals in the Ministry of Health, Egypt; and, finally, Dr. Rashad Massoud, Medical Officer, UN Relief and Works Agency.

Mitchell Rabkin: We have a distinguished group of experts here to discuss some of the work we've been doing in the last two days. The first question that we've been asked to address is the following: TQM involves a diffusion of authority. How do you feel about it? Is there a loss of control with the delegation of power? Does TQM undermine your own authority as a manager?

Orly Rotem: I think that today the managing of human resources, especially of professional people, requires decentralization, collaboration in decisionmaking, and delegation of authority. There is an expectation on the part of the people with whom we work to be a part of all of that.

I think it is for senior management in an organization to define the way it manages the hospital, to decide on a strategy for the organization and to set the goals and standards for the organization. Of course, the whole process needs the commitment of management. In this regard, I think that there are several points which are important.

First of all, management needs to define a model which include all sectors of the organization. Also the atmosphere and the culture in the organization must support the plan. One thing that management can never afford is fatigue. It's a long process. It takes years and fatigue is a word that can't be part of the lexicon of management. Of course, there are some conditions which must be part of the process. One of them, is creating a net of communication from top to bottom and visa versa, between sectors, and in sectors. There is a lot of effort that has to be put into creating this net of communication.

Openness is a condition required in the organization and trust between people. I think that maybe last but definitely not least is the investment in people. People are our resource and we've got to invest in people using formal and informal education, mentorship, workshops, and whatever means and resources management has.

Shouki Hard: I think there is a danger of diffusion of authority, of losing authority, especially if you have a different setting and a different cultural set-up. You must remember in a third world country, authority is important. There must be a chief and indians around him. At least that feeling must prevail because if you now apply TQM, you have to apply it right, otherwise there is a danger that you'll run into a very chaotic situation. You might prevent this from happening if you have an authority somewhere who will still jump in and decide in case of catastrophe. But this could very well be incorporated in a TQM system. But that's exactly why not only the knowledge of the system, of variations, of the psychology or improvement in education but also values should be incorporated. Also, the feelings of belonging to and identification with the institution are of paramount importance.

Hassan El-Kalla: I think TQM, like any new management approach, can be dealt with in different ways but proper Total Quality Management is a structure which does not allow the loss of authority. But the issue is not having or losing authority, it is how to apply Total Quality Management because TQM requires that the top management at all levels be involved, committed and in charge of the process.

Joseph Frost: I want to introduce two contradictory assumptions. The first assumption is that every manager is worried about his power. The second assumption is that in order to strengthen the authority of the manager, we need empowerment. In my view, these are not contradictory. The way to maintain your authority as a manager is to let your employees be independent and think big. If they have the opportunity to think big, they will feel that you have given them authority and that you trust in what they do. But this can only be done if we managers are still there when something occurs. We love the idea of empowerment, of spreading out responsibility, of telling our employees that from tomorrow, they will be responsible. But what happens if something goes wrong? The manager has to be there. If we are delegating power to our employees, we have to be there in case something is wrong. If this happens, if this is the way we promote empowerment, my feeling is that we are strengthening authority and not the opposite.

Rashad Massoud: I see diffusion of authority associated with TQM as a shift from an old management methodology to a new system in which you empower your employees to take on responsibility. In such a case, we are really moving from one form of management in which you are commanding, setting regulations and then supervising, to a new way of delegating authority and involving people in the decisionmaking and implementation processes. Employee empowerment is essential for implementing TQM. However, we must emphasize a very crucial point associated with this. In order to empower employees, one must empower the right employees. In other words, a strong human infrastructure is required for this type of work. In order to be able to diffuse authority, to delegate authority, you need a strong human infrastructure at all levels of management within the association.

Mitchell Rabkin: Thank you. It seems to me that we have to distinguish between empowerment which is what Dr. Massoud was talking about and Dr. El Kahala and power. Empowerment is generating in those employees the feeling of the capacity to influence. Power is actually to be distinguished from authority. Authority is what you have when someone says you're the boss and it is given to you by someone who is above you who says you have the authority to do this and that. Power comes from below. I agree with what Dr. Frost was saying that in fact employees who have the capacity to make changes, to influence, then ascribe really great power to their manager.

It is interesting when you talk, for example, in the United States to a newly promoted manager. Let's consider someone who has been working in a factory and whose boss has just left. The company head comes and says, "We need a new manager in your department. You've been a very good worker so you're going to be the new manager of the department." If you ask this employee now that he has come a manager what does it mean being a manager, I would say nine times out of ten, the employee will say, "I know all the dirty tricks those people play because I've been playing those dirty tricks for the last eight years. They are not going to get away with a single thing". The manager is thinking in terms of one component of being a manager which is authority. Is authority the most important component of being a manager? All those who feel that authority is the most important component, would you raise your hand? Nobody. What is the most important component? Efficiency. Responsibility. Coaching. Ability to lead. Delegation. I'm still looking for something else. Vision. Knowledge. No. Accountability. That's right. You see, after all, why are you a manager. You are made a manager because there is more work to do than you can do yourself in your department. You need to have more than you to accomplish the work in your

department, so your superior says because there is more to do than you can do yourself, we're going to give you certain authority to hire a few people and direct them and educate them, in order for you to fulfill your accountability to your superior. That really is the most important component of being a manager. This means that instead of taking the attitude of "I know all the dirty tricks and they are not going to get away with a single one," you say "in order for me to fulfill my accountability, I want to educate these people. I want to motivate them. I want them to be acculturated in order to get that work done."

The man I spoke about in my talk, Max Depres, made a very interesting statement. He said that the first task of the manager is to define reality, what has to be done, the way the world looks. The last task of the manager is to say thank you and in between those two, the manager should be the servant of his subordinates and of course, what he really meant was that the manager should do everything to educate, encourage, and motivate so that those employees can fulfill their work in order for you as manager to fulfill your accountability. I would tend to agree with what was said here on the panel that indeed if you're looking at TQM as something that subtracts from the authority of the manager, that's probably not correct. In fact, to the extent that you empower your employees, they will in fact give you far more power and you will rise even further in the organization. Any comments from the audience?

Comment: I don't like the name TQM because I don't think quality can be managed. I think that's an oxymoron. Let us remember that originally the standard procedure to assure quality in manufacturing was to have a big manufacturing division and a small quality control unit within the institution. That unit would pick one out of a hundred nails or one out of ten cherry wood desks and go over it, discover all the faults in it and make recommendations to management how to improve the nails or the concrete tiles or whatever. Dr. Deming, when he came along and was lovingly accepted in Japan, came and stated that this approach was wrong. You would not have a large manufacturing facility and a small quality control unit. Every employee was supposed to be his own quality control officer. Let me remind all of you that in Japan, the robots are part of the quality circles and one of the employees represents the robot who in some cases, unfortunately, cannot yet express his views. This is quality management. We are here mixing up participatory management which is sometimes an important component in quality improvement in institutions but it is not the main issue.

I would like to finish by stating that Dr. Deming's idea about quality are very important. The idea of having small quality control units within large

organization is *passe*; it is dead. Everybody now knows that one should attempt to have each employee as his own control officer. Motivation is not enough. The employee should first of all know what is expected of him, what is the quality standard to which he is supposed to conform. In very many institutions when you really inspect issues of quality, you will find that the employee does not know what is the quality standard to which he is expected to conform. For instance, very few hospitals in the world have instituted correct blind control systems for their laboratories just to check automatic equipment which goes berserk from time to time.

One last comment about participatory management. When you disburse power, when you give it out in order to have increased participatory management, if you do not, at the same time, increase the power of the central administration, you will end up by creating havoc. There are many historical parallels to that. Yes, you can empower, you can distribute, you can participate and so on. But if you don't constantly strengthen the central administration and make its control of the disbursed powers better, you end up losing instead of gaining.

Rashad Massoud: I just have two points to make. I would like to refer back to the parable of the red beads, and remind you of the role the boss was playing. Now the boss was really commanding and controlling the process, the manufacturing process in the company. He didn't listen to his employees. He didn't listen to the workers. Had he empowered his employees, could he have achieved quality? This is what we're talking about in diffusion of authority, a sense of empowerment of employees.

The other comment that I would like to make is regarding quality standards. I think quality standards are very important. However, one should really look at quality standards in very particular ways. Quality standards assure a basic minimum. They do not assure a process that is capable of improving. They do not contain the seeds for improvement within that process. They only set a basic minimum.

Joseph Frost: I believe that in order to achieve the quality that Shmuel has been talking about, we need the participation of the workers by having them take part in the quality control system. The idea of TQM is that it doesn't matter what baseline we start at. It is important for the employees to have a baseline from where they start and a goal to where to go. And what is important is that there is a process of improvement. If the employee himself can identify exactly by himself, with his measurable tools, a process of improvement, we can be sure that the outcome will be successful.

Orly Rotem: I think that the organization is the sum of the people who work in it and we need the help of all of the people in the organization in order to succeed. True, it is for the management to set the goals, the policy and the standards of the organization. But there is a lot of information, knowledge and experience that the workers can share with the management. I think this is the idea of TQM. It doesn't speak of anarchy or working without a set of rules.

Rashad Massoud: I would just like to reemphasize the meaning of the word authority. Authority in the traditional sense does not exist in the TQM system. Authority, as Dr. Rabkin said, is power. But what does power mean? Power means knowledge of the whole thing.

Mitchell Rabkin: The last part of the original question is, are your employees capable of taking on this responsibility? Suppose you go back to your respective institutions and say "Well, we heard about this TQM and it sounds like it has some very good ideas. We would like to begin to become involved in this process." Do you feel that your employees are capable of taking on this responsibility?

Hassan El-Kalla: I think that this differs between different organizations. In organizations in a country like mine, where Total Quality Management is a new concept, it is very dangerous to assume that our employees are capable of implementing the process. That is why the top management level should be involved and should be part of the decisionmaking process. However, at the same time, the staff and the people who are involved in implementing Total Quality Management should receive coaching and a lot of training about how to implement Total Quality Management. However, after some time and by the continuity of the process, they will have the capability. They will be part of the process and eventually, I assume, they will be capable of doing it and they will achieve good results.

Mitchell Rabkin: Does anyone disagree with that? One of the related questions is that this is based on a premise about human nature, that most people are naturally motivated and interested and dedicated if they are given the opportunity. Do you really believe that that's so? Anyone disagree? You know, there's a very interesting survey you can make. I've tried this in the United States. I say to an audience, now I'd like to see a show of hands, "Who is a good guy?" Everybody raises their hands. Who is a bad guy? Nobody raises his hand. There are no bad guys. Everyone wants to do well and, as Deming pointed out, when you see employees that are disheartened or non-productive,

nine times out of ten, it is not their fault at all. It's the situation that we, as managers, create.

Now what about the risks and the opportunities that will be involved in implementing TQM. Here we have people from several different organizations, different histories, backgrounds, cultures and so on. Let's talk a little bit about what are the peculiarities, the individualities, the risks and the opportunities that you're going to have to think about in your own institution. Who would like to start?

Joseph Frost: I'll start with the risks. The first risk that I see is if TQM is looked at as a religion. I believe that we have to believe that TQM is only a tool which we can use in order to bring about a change.

The second risk that I can see is that we will forget about quality. There is a possibility that we will concentrate too much on the framework of the system itself and will forget why we are there and what is the real goal of our work.

On the other hand, there are advantages and the big advantage that I can see in Israel, for example, is the fact that we can try and motivate our workers in a new way. When I say in a new way, I am referring to a major obstacle that we have in Israel. We have a strong union organization in Israel. The unions in Israel are very much involved in the daily life of managing hospitals and health care services in general. And sometimes, the unions are leading the employees into directions that are not similar to the main goals of the system because of different interests. I believe that with TQM we can really try and motivate our employees towards the directions that we want to go.

Shouki Hard: I represent a sector which is underpaid and understaffed. There are so many things actually absent in the hospital, it sheds a negative light on the setting. Also, we have a different cultural background among the Palestinian population. The social relationships are different than what you see in the United States. Sometimes, implementing TQM might be misunderstood. I think whenever TQM is successful, it should be implemented but I don't think it should be implemented at all costs. I'm talking about losing time and money and then ending up with nothing. If I have a setting where I am fully staffed, my employees are very well paid, I can have the luxury of starting TQM. But it doesn't mean that I cannot try it at all. We've been trying it, sometimes successfully and sometimes not.

I can give you examples where it was not successful but also I have a few nice examples where it was successful. For instance, seven years ago we started at the Ramallah Hospital open heart surgery. This is a very sophisticated medical discipline which needs teamwork. You have to delegate authority to different parts of the team and responsibility is shared by the members of the team. This was a hospital with 140 beds and 98 nurses only and no medical or biomedical engineers. Also, the average salary of the technician is $300 and of the attending physician, not more than $700. But still, we were successful in implementing such a sophisticated discipline. What makes the Ramallah Hospital tick? Partly TQM but if I say it is only TQM, I'll be very much mistaken. It is probably the feeling of belonging and the challenge. I think that's what made the Japanese change their products drastically after World War II.

Orly Rotem: I think that for nursing, there's maybe more opportunities in adopting TQM than risks. In the old management of hospitals, nurses were a partner at work but not in decisionmaking, not everywhere, not all the time. I think that whoever knows hospitals, patients, and procedures taking place in hospitals will agree with me when I say that most of the processes in hospitals involve nurses to some extent: administering medication and food, ordering supplies, admitting patients to the hospital, preparing them for discharge, answering the telephone, almost everything involves nurses. And so that there is a lot of information and a lot of experience that the nurses have about the hospital, about patients, about the needs of the patients and I'm sure that everywhere, they are willing and capable to share this information with management and with the organization.

The participation of nurses in the managing of the hospital at all levels, will enable nurses to gain power, to influence decisionmaking, and to make a greater contribution. I think that nursing as a profession and nurses have a lot to gain. As far as the risks are concerned, I think that if you don't take risks, you don't gain the opportunities.

Hassan El-Kalla: I think in order for TQM to be successful that we really have to be aware of the risk which is connected with the application and the introduction of the technique. The first risk to me is the assumption that all employees are motivated. In any organization, you will be faced with three types of employees. You will find a section who are motivated and willing to go with the technique. At the other extreme you will find another group of employees who are totally opposed to the concept and will probably try to sabotage the process. And then in the middle are the indifferent workers or

fence sitters. Assuming that everybody is motivated, will be like leaning on a broken stick. That's number one.

Number two, many people will be optimistic about the process and have high expectations that Total Quality Management will change everything. They think it will improve the organization over night. That in itself has a built-in frustration when they don't see quick results.

The third risk which we have seen from our experience in Egypt is that people become excited about the process and start talking excessively about problems. It becomes a nightmare for the administration. By introducing Total Quality Management there is a danger that people will be talking about problems instead of trying to solve them.

The last risk which we have encountered in Egypt involves the need to introduce some statistical tools to have a successful and complete TQM system. This requires creating the tools and extensive training for the staff about using the tools.

Rashad Massoud: I think TQM opens up great opportunities for improving the delivery systems in health care. As far as concerns, judging from some feedback I've had from our colleagues, when you introduce a system with new capabilities, expectations are very high about what it can do and over what period of time it can do it. I think one has to be realistic and the concern that I have is regarding the expectations people will have from implementing TQM. We should take TQM for what it stands for and what it can do. TQM can address one question - internal efficiency of systems. It won't tell us where to divert resources to. It won't tell us what is better than what, but it will tell us how to improve the internal efficiency of a certain process, of a certain system. This it can do. And in a certain time frame. It will take several years, maybe some five years, for any organization to be able to implement quality management within it and reap the results of this implementation.

Mitchell Rabkin: I think we've all agreed then that it is better to take a somewhat more optimistic view. We have a comment from the back?

Comment: The problem that you are dealing with, as the name of the conference points out, is implementing TQM in medical centers. It is not like in industry. We are not manufacturing chairs. The product, as has been pointed out, is lives. Of course, the processes involved in bringing a urine

sample from one place to another are easy to discuss but where is the quality assurance?

I think, as Dr. Pinhas says, there is a difference between quality management and quality assurance especially in medical centers. The main problem in medical centers are the physicians and especially the heads of the departments. It is very hard to take accountability and disburse it. So where is the interproblem solving?

We had a retreat for our staff. During the first interaction between nurses and physicians at the retreat that we did, there was a huge burst of feelings. It was very interesting, but it was a very hard experience for both sides. So perhaps it is good that we did it but it is a very, very complicated matter. It is a very, very long journey involving a huge amount of money, time, and a lot of frustration. And at every point on the road, you can say, "Hey, who needs the whole system?" And TQM in one place is not the same as TQM in another place.

Mitchell Rabkin: I think you're right. It is like growing up. Everybody has to do it on their own.

Comment: I would like to talk about one issue which I believe is very important. You can look at it as a risk or an opportunity. Prof. Rabkin, talked about the psychological aspect of Total Quality Management. I think there is a danger of becoming obsessed about Total Quality Management. As a result, there can be a lot of meetings where a bunch of intellectuals talk about the conceptual framework of Total Quality Management for hours and hours. By the end, it sometimes feels like we are just trying to satisfy our needs, not the needs and expectations of patients or the community. We talk in depth about conceptualization of Total Quality Management and how we can pick the best approach for Total Quality Management but we talk very little about the implementation and the operation of Total Quality Management. I'm not saying that it is a problem to talk about the conceptual framework. It is very important to know what is the groundwork or the conceptual framework for your approach but there should be a limit. I think a lot of people like to talk about this new approach of Total Quality Management just to gain intellectual gratification. I would like people to be careful about this issue.

Mitchell Rabkin: Thank you. Next comment, please.

Comment: I wonder why you are speaking about the disadvantages and risks of TQM, so long as our goal is to improve our institutions and organizations?

Hassan El-Kalla: I would like to respond. We're not discouraging or saying that TQM is not a good concept to apply. But, to share the lessons which we have learned with others will help them to avoid some of the problems we've experienced when applying the technique in some of the Egyptian hospital settings.

Comment: Improving the quality of care is actually improving the system which delivers this care. In the West Bank and Gaza, it is evident or crucially important to state that we are inheriting a collapsed health system. I was wondering all day how can we implement or approach Total Quality Management while we are worried about building up this system. The question is not whether Total Quality Management is a good thing or a bad thing, the question is when can we apply the principles of Total Quality Management. I would advise my colleagues here, especially those from the West Bank and Gaza Strip, that thinking about the application of Total Quality Management in our area would be a total waste of time. Quality Management, as a matter of fact, is quality people. This is one way I look at it. People in our health system are uniquely dissatisfied due to their low salaries, the lack of recognition of their output and the lack of training opportunities.

A final point I'd like to mention is the principle of adaptability. TQM has been derived from Western perception. Western perception, with my full admiration, is uniquely associated with western values. TQM with its Western orientation has to be adapted to our Middle Eastern area when we are thinking of implementation.

Mitchell Rabkin: Now would the panel like to respond to some of these comments?

Rashad Massoud: I'd like to thank the last speaker for his comment. I would like to take his assumption of the collapsed system for granted. Systems are collapsed and there are two things that we need to work on. First, improve the human infrastructure. That is vital. You cannot have any system, let alone a Total Quality Management system, if you have a poor human infrastructure. And, second, you need to improve the organizational structure. One of the things in quality management is quality planning. You do not have to wait until you develop a system and that system runs in order to try and improve standards. You can plan for quality. You can build into the planning phase of your system quality management. This is called quality planning. Quality planning would be a great opportunity for a system that is collapsed as you say. It is also a big challenge, especially if this is to be considered on a

national scale. I think your concerns are very true. I share your concerns and I think that this knowledge of quality planning and the fact that you can plan for quality poses a challenge and an opportunity for such systems.

Mitchell Rabkin: What we're really doing here is raising a question about two sorts of issues. One is how do you look at work and when you see work that's less than perfect, less than the ideal, how do you go about trying to improve it? And the second thing is, in going about trying to improve it, how do you seek the cause of the problem? The question that was raised by the gentleman from the West Bank is interesting because some of the ideas we've been voicing have been predicated on the assumption that there's something common in all people. Most people want to do well. Most people want to be recognized. Most people want to be appreciated. Most people like being told they've done well and like being thanked. You may look upon the West as having certain values, and it certainly does, but from the Westerners' point of view, with the various economic restrictions that are being imposed upon people today, if you talk with some of them, even though they may be far better off let's say than some of the hospitals in the West Bank, they will tell you, "Oh, things are really terrible," because it becomes relative. And so the question in almost any situation is really are there some commonalities that will help us dig out from wherever we are and get a little step further along in our direction.

Joseph Frost: It reminds me of a story about two epidemiologists that get together and one asks his friend, "How are you?" "Okay," he says. "How is your wife doing?" "Compared to what or to whom?" he asks. And this is really the question. What are the alternatives? If we have TQM and we can use it, I think it is a great opportunity.

Mitchell Rabkin: Dr. Massoud raised a very interesting question, not only about the individual situation - like the economy in a particular area - but also about culture. He said in a culture with a strong belief in fate, where success or failure may be taken as already given, as ordained by God, how do you address the manmade responsibilities for the failure or the success of a system and for whatever management does that may be less than ideal, that leads to low efficiency, poor quality and ultimately reduced performance on the part of the organization? Dr. Massoud, what do you think? You asked the question; you ought to take the first try at the answer.

Rashad Massoud: I don't have a formulated answer on that but I think that this is one of the cross-cultural issues that has to come up in evaluating the

opportunities and the risks in implementing TQM in the region. We do have a religious culture of more than one religion and in all religions, there is this issue. And I think that this is going to come up. This is the way it is. This is accepted. I would like to see what other people think about this.

Shouki Hard: I definitely agree with Rashad that fate plays a role but I don't think it is that different in Western countries. I'm surprised how many Westerners believe in the horoscope. They read it every day, including some presidents. I think this problem of fate is sometimes misunderstood. In our Arab, Islamic culture definitely there is the concept of fate but when it comes to implementing scientific ideas, fate somehow vanishes, and ultimately what counts is success.

Mitchell Rabkin: Now we will have some questions from the audience.

Question: I'd like to ask Prof. Rabkin and the panelists, in fact all the audience, if they have involved patients in experiments of Total Quality Management that they have implemented and if so, how? Would it have been a good idea to have some patients with us here?

Mitchell Rabkin: Thank you. That's a very good question. Have we done any work involving patients in the development of improvements? I can tell you that at Beth Israel Hospital, we're leading a nationwide study in those aspects of care which can only be determined by asking the patient. You see, if you think about it for a minute, I can determine what is the right dose of an analgesia from the textbook of pharmacology, but if you ask the patient, one patient will say, "Yes, it relieved my pain". Another patient will say, "Boy, did it relieve my pain. I slept for three days". And a third patient will say, "It didn't do a darn thing. I was climbing the walls". These can be the same size patients, with the same weight and presumably the same degree of pain from our point of view. So there are many aspects of care that you can only tell from querying the patient. We've tried to develop what we call a robust questionnaire to determine this. We find that when you begin to ask patients, you learn a lot of things that you think you're doing well but in fact, you haven't done well at all. Now perhaps the other panelists have a comment about that.

Orly Rotem: In our hospital we conducted a survey, a patient satisfaction survey. We allowed free text in the survey. I must say that we received many comments. If we take only the comments and start working on them, we've got a year's worth of work to do within all the units and all the departments.

Sure, the patient might not be able to comment on the quality of the medical care that they received, but they know very well what they want of the hospital and how they feel when they leave the hospital as far as their satisfaction from the surrounding, from the attitude, from the care they got. So there is a lot of information there.

Mitchell Rabkin: It is certainly a good idea always to ask.

Joseph Frost: From my experience, you have to involve patients in order to decide which direction to go.

Comment: I am a consultant in Jerusalem. I'd like to go back to the cultural issue. I'd like to say something about Israeli culture and TQM as I see it. First of all, there is no word in Hebrew for accountability. We don't have a translation for the word and I think the reason is that you don't need a word when you don't have a phenomenon to describe. That might be an extreme statement but they tell the story of the guy who goes to hell and he's offered two alternatives. One is the American hell and the other is the Israeli hell. In the American hell, they tell him that at eight o'clock in the morning, they pour boiling water on you and at twelve o'clock, they pour boiling tar. In the Israeli hell, they tell him that eight o'clock in the morning, they pour boiling water on you and at twelve o'clock, boiling tar. So he chooses the Israeli hell and they ask him why? He said, "Well, you know, in Israel, eight o'clock is not eight o'clock and boiling water is never boiling." So I think as far as measurement and accountability, we have a problem with that culturally and TQM is already making inroads on bringing people to understand that measuring yourself is not threatening. It is actually a way of building strong teams.

The other issue I think that's difficult for Israelis is service. In American culture, you walk into a restaurant and people say, "Good morning, sir. How can I help you? What can I do for you? It is wonderful to see you. That's a nice shirt you're wearing". In Israel, you walk into a store and people say, "You want something? You don't want something? What are you doing there"? We have a sense that to serve someone is to belittle yourself. I think we have a long way to go in terms of really understanding the dignity of service.

I also want to mention a third point. They say the Japanese spend 70% of their time planning and 30% carrying out activities. The American spend 30% of their time planning and 70% carrying out activities. The Israelis don't plan. That's also an exaggeration but I think that the positive side of it is that we're

very creative. We love to invent things on the spur of the moment. We show up at meetings and at all kinds of important events not having prepared ourselves and then we pull solutions from the hip. I think that those qualities are one of the reasons that task teams in TQM projects in Israel work particularly well. In American one of the big problems that I've noticed is that people tend to be rigidly governed by guidelines whereas in Israel guidelines are the beginning of a discussion. The Hebrew word *chutzpa* is one of the things that makes our task teams particularly effective. Workers don't necessarily recognize authority. People look at authority and they sort of say "Well, what's the difference between him and me." It is one of the reasons that workers at all levels are willing to come forward with ideas and to throw out what seems at first to be outrageous ideas and not to be afraid. That quality of inventiveness and *chutzpa* is definitely in our favor. So I think that there are pluses and minuses in the Israeli culture as far as our own ability to take on TQM's challenges.

Mitchell Rabkin: Thank you. The interesting thing, of course, is that everything is becoming internationalized and just as you now see McDonalds in Japan and Israel, there are aspects of each culture that become diffused. And there are things that we, too, in America, will learn and must learn from Israelis and from Palestinians, just as these cultures, while they will remain individualistic, will be contributing to each other, just in the same way that markets are becoming international as well.

Shouki Hard: When applying TQM, we have to consider the cultural differences. It was not a coincidence that Deming, an American, started TQM in Japan. Could Deming have started TQM in Israel, in the Middle East at that time? I really don't know. We are trying now to introduce concepts in TQM as it was first conceptualized by Deming so as to fit our own culture. I'm trying to add to it the things which will fit it to our culture and make it applicable. I'm trying again to say that we have to consider the cultural differences and try to modify TQM within our cultural system.

Orly Rotem: I'll end with a story which maybe some of you know of two people who went lion hunting in the jungle. When they were in the middle of the jungle they saw the lion, and then found out that they had left their rifles behind in the car. One of them bent down and took out his sports shoes from his bag. So his friend looks at him and smiles and says, "Do you think you'll run faster than the lion if you put on your sports shoes?" He says, "No, but I'll run faster than you, hopefully." So the main issue is to be innovative and

to keep thinking what can we do better, how can we improve ourselves. Be it TQM or any other name that we give it, this is the main issue.

Joseph Frost: My feeling is that we have to add another point to the fourteen points of Deming and that is, that if you want to implement TQM, stay away from politics. Secondly, it is my belief that if we want to really implement TQM, there is a key sentence and key words that we have to remember: It is a continuous quality improvement system. It has to be a continuous system so that we will have tension. We need to keep up a tonus in our system, in our management, in our system, for all the time and it has to be a continuous improvement system.

Hassan El-Kalla: I would like to emphasize the fact that we need to tailor TQM initiatives to address our country's specific needs and characteristics. In Egypt the system is mainly dominated by the public sector. In the public sector, there are many factors which are outside the control of the organization. Most of the work which has been done in TQM has been done in organizations which have a certain degree of autonomy. The case in our situation is not like this; our organizations are governed by rules and regulations from the local authority and from the Ministry of Health. I think we need to have a joint effort between the hospitals or institutions or organizations who are going to implement TQM and the health authority to introduce some legal changes. I don't see a possibility of easily applying TQM in an organization in which a manager does not have the right to hire and fire, for example, does not have the right to provide financial incentives or is limited in providing other types of incentives. Cooperative work between the organizations and the local health authority might be needed to apply TQM in a place like Egypt.

Rashad Massoud: To sum up, I would like to ask a question. Do we need to improve our health delivery systems or not? If we do, then what methodology do we have in order to do so? Is TQM a suitable methodology? Perhaps we should forget about the "T." Perhaps we should think about improving quality, quality management. Is such methodology applicable? This is a question we need to answer. I think that the tools, the methods, the culture that is present in quality management provides a very powerful instrument that we can utilize very well to improve our delivery systems. Is it a big job? Is it difficult? It's tremendously difficult. Nobody is doubting this. But then, it is like when somebody asks the question how do you eat an elephant? You eat him one bite at a time and this is how we should look at it. It's a massive job but it can be done.

Closing Remarks & Conference Summary: Potential Next Steps for Implementing TQM in Middle Eastern Medical Centers

Donald Berwick: My job in the coming hour is to make some concluding remarks that summarize the conference and perhaps, also, to leave you with some bits of advice. This kind of a role at a conference is so complicated, it reminds me of a paper one of my children brought home one day. He was asked to write a story about Socrates. He began: "Socrates was a man who went around giving people advice. They killed him." It always makes me cautious about any attempt to give advice. The safer thing to do is to ask you to give the advice and so, before I begin my formal remarks, please take a moment to consider two questions: First, what are two new ideas that you have heard at this conference? And second, when you return to your home and your organization, what is one new thing you might try to do?

I hope your reflections on these issues will continue for a long time to come. I'm interested in knowing your impressions. Let me share with you some of mine. My remarks will be in three parts. First, I'm going to very briefly summarize again the principles of TQM. Second, I will take the risk of giving you some advice, of telling you what I think are some of the especially important strengths that Paul and I have observed among you as people trying to engage in a more rapid improvement in the future than in the past. And also, what are some of the special challenges and obstacles that you have told us about and that we are noticing as we watch you work together so that you can set yourselves an agenda, if you wish to proceed, both to build on your strengths and to remove some of those obstacles.

In the last phase of my remarks, I will talk about what happens after you leave the conference. No conference has ever changed anything. Rather it sets the stage for what comes next.

One word of caution before I begin my first set of remarks. Paul and I have observed both here and elsewhere that when a group like you begins to study or advance its understanding of quality management principles, there is a general sense of excitement. And, eventually it becomes unacceptable to say that you disagree. But if you believe that these are not the principles by which you wish to conduct your work, if you believe that these changes are not useful at this time for your worksetting, then you must have the courage to say no. Please, do not carry forward the implementation of quality management only out of a sense of compliance or duty to say yes with the crowd.

Even if you reject quality management as a methodology, you still face the same two key issues as Rashad Massoud said in that wonderful closing panel: Do you need to improve? And, if so, by what method will you try to improve? These are not escapable questions if you are a responsible leader. In the United States, I believe, too many organizations and too many people have embraced quality management because it was the thing to do and gone off and made nonsense or no progress at all and confused themselves and others and the picture as a whole. I would rather see fewer organizations in the Middle East embarking on quality management but that those that do, do it with discipline and sincerity and enthusiasm and with the necessary initial period of study and learning and then directed action. This is not a pledge you must take or a movement you must join. We've raised in this conference a series of questions and choices for you, and we urge you to make those choices with your complete free will.

Now what is the methodology we've discussed? I will give a very brief summary of the basic principles. First, there is a focus on meeting need and on the customer or beneficiary as "the reason for being" of the organization. John Bingham took this idea and translated it into a hospital mission to meet the needs of a community to be healthy. Hugh Koch took the idea and emphasized the importance of asking customers about the experience they have had in our hands. No matter how you view quality management, one requirement is to think about who depends on you and what are their needs and to deepen your understanding of those needs.

Second, TQM thinks in system terms. As Mitch Rabkin put it last night, every action has consequences and the consequences reach far beyond the immediate boundaries of that action. We are inevitably locked in interdependent systems. You may think, doctor, that you act alone. You may think, nurse, that you are an isolated professional. You may think, manager, that you are in charge. But none of that is true. Every step you take affects others. If you wish the affect of the system to be positive for those who depend on it, you must take action together. Rashad Massoud showed how when process-mindedness enters a system, important improvements occur. A reduction in lost action values from 23% to 3% is no small accomplishment, especially in a system that has been used to carrying this defect for a long time. John Bingham's effort to understand miocardial infarction care, heart attack care, moves him inevitably as a process thinker upstream, outside the hospital, into the transportation system and eventually even into the home of the heart attack victim. When you think in system terms, you leave the boundaries of your profession and your organization to think of the world the way the beneficiary experiences it.

Third, quality management involves everyone. Our systems are too complicated and too multiple for any individual to change the characteristics of the system as a whole. John Bingham took one thousand people in order to accomplish the reduction of head injuries in the city of Twin Falls, Idaho. That reduction required large amounts of effort, widely dispersed, and that is the way it is in complex systems.

Fourth, quality management uses science. It attempts to use the scientific method of inquiry, hypothesis generation, hypothesis testing, and building on accumulated knowledge in the system. Next, in order to be scientific, quality management uses measurement. It uses statistics. It does not reduce all things to measurement. As John Bingham pointed out, words like love apply in a system that seeks to improve but there is always an element of attempting to understand through measurement and of analyzing the variation in the characteristics of a system we seek to improve. What guided John Bingham's work initially was an understanding of the epidemiology of disease in Twin Falls. Because he understood the ways in which years of potential life are lost, he could set his priorities based not on opinion or power or the need to control but on knowledge.

Next, quality management is never ending. Instead of a mentality based on meeting standards, passing the grade, getting by, quality management taps a different part of the human spirit. It is the part of the spirit that seeks to grow forever. It is the part that one observes in every child, as the child seeks to gain knowledge, to learn to walk and talk and calculate and solve problems. It is this same spirit of growth and continuous betterment that motivates quality management.

Quality management emphasizes the psychology of the workplace, as Mitch Rabkin has talked about. It is about the importance of involvement and motivation having to do with far more than a paycheck or a financial reward.

Because quality management emphasizes systems, it also emphasizes cooperation. It does not matter what degree is after your name. It does not matter which department you work in and, in the end, it matters little which organization you work for. If the aim is to meet need, then all boundaries are negotiable, all walls can be torn down and the ability to redesign systems across those boundaries through collaborative, cooperative effort is essential. Obviously, in the Middle East this poses enormous challenges because the walls that have been built around nations and ethnic groups and religions are

very high and must now, in order to restore health to the region, begin to be torn down.

John Bingham showed us in Magic Valley how he is moving towards, for example, pulling the boards of various hospitals together. I guarantee that those hospitals in some cases consider themselves competitive with each other, but only with joint and shared leadership will the system as a whole improve.

Quality management is a business strategy. It attempts to lower cost through the crafting of wise processes. It assumes that a good deal of the resources we use are wasted in things we throw away, in efforts that are redundant, in duplication, in complexity that we don't need and in unpredictability. If we are smart enough to address our efforts toward the removal of waste, the decrease of complexity, the tearing down of barriers, we will find ourselves recovering enormous resources that can be reinvested in the aim we really have which is to meet health needs.

Finally, because of all these other elements, the direct constant visible actions of leaders is required. The responsibility for teaching, encouraging, supporting, maintaining a true system of improvement lies firmly on the shoulders of the leaders of a system. It can begin inside a system. It can be initiated by a worker or a manager but it cannot be sustained in the system as a whole without the dedication of the system's leadership. The story behind Mitch Rabkin's introduction of Prepare 21 in the Beth Israel Hospital that Mitch is too modest to tell, is the story of an executive who paid attention, who was deeply involved behind the scenes in the change process. That's what we would call quality management.

Now, what have we noticed as we've attempted to understand the opportunities and the barriers that appear in the context of the Middle East and your separate nations? Let me first deal with some of the important strengths we have noticed.

First and most importantly, you feel that there is a need to improve here. In Israel, there is a feeling that there is a deficient sense of accountability. Kupat Holim Clalit is not an organization with which there is widespread satisfaction. It is now experiencing competition and, for example, beginning to recognize that it must change or it will be smaller. In the Egyptian context, there is a strong sense of the need to plan, to address issues of resource allocation in an exceedingly careful way. One hears in the Egyptian vocabulary a strong sense of the need to rationalize the use of resources in a country with an enormous

potential for economic growth. The Palestinian voice is about the beginning of a new undertaking, the establishment of an autonomous entity. In the health care context, there is a need to earn the affection and loyalty of the Palestinian people themselves. If the leadership of the Palestinians cannot demonstrate the ability to produce health care that at least satisfies and hopefully delights the citizens that they wish to serve, those citizens will express their dissatisfaction.

Second, one observes in the Middle East a level of dedication to the work of health care that is second to none. You have told us about the difficulties you face in the strained and under-resourced circumstances of your organizations and that is a problem. But notice that that cloud has a silver lining, as we say in English, because what you are telling us is that despite those obstacles, people in your organizations continue to do their jobs, they continue to invest in what they care about which is serving people. To be able to build on that level of dedication is an enormous strength in your systems.

Third, there's an incredible sense of possibility for change here. You heard speakers last night tell of their thrill in coming from the United States this time, given the events of September 13th, and the general feeling that despite the difficult and sometimes tragic occurrences, change is coming and there is something important starting here.

Fourth, help is available. I can tell you as an American that there is very little you can ask for in this part of the world in the form of help that I would not be prepared to find for you. The sense of the stakes here for the world is so strong that you are able to call upon a level of assistance, if you wish, from the world as a whole that actually few regions probably can right now. Nothing is so motivating as seeing Palestinians and Israelis at the same tables in a workshop. That's something I can commit my time to. There is a double edge in the offer to help - there's the potential for insult, the possible implication that you could not do this yourself. I don't believe that for a minute. What I want to say is that if you wish the help, it will be there.

Fifth is the work of Lenny Hausman and the group at Harvard and the Alumni Association here. What quality management, reform and change need more than anything is leadership and even more than that, leadership with courage. We find this in this group of people gathered here.

Sixth, this is a difficult point to make but it is important and if I don't explain it properly, please interrupt me. In the United States, we're living with a serious error. The error has been the oversupply of technology. We say in

America that the genie is out of the bottle. The genie here means technology in excess of what the public needs. So in a city in the United States where we may actually require only one cardiac surgical unit or only one or two centers for sophisticated radiology - CAT scans or MRIs - we find ten or twelve. Now health services research has documented quite clearly that in health care, at least in the West, when you supply more of something, it will be used, even if at some scientific level, it isn't needed. This faces us in American with a very very serious challenge which is to take away some of the oversupply of technology that we have produced. Without doing that, there's little confidence among those who understand the economics of health care that we will ever contain costs.

I believe in the Middle East, you have not yet let the genie out of the bottle. Although it may be that in some nations, you have already overinvested in technology as opposed to primary care and community based medicine. But still, at the current level of technologic supply, you have an opportunity to be very smart, smart enough to set up regional systems of technology management that make sense, which supply just enough technology to meet needs and not more. That cannot be accomplished on an institutional level. It can only be accomplished on a national level and I would suspect in the Middle East, it probably can only be accomplished on a regional level because the nations are small enough that some technologies should be managed regionally.

You know better than me the challenges that that idea will create as you attempt to create international cooperation for the use of health care technologies but I urge you to invest in that idea. Everyone will win. Everyone will preserve resources.

Seventh, there is the new start here. All in the room are equal but one group is more equal than the others and that's the Palestinian group. The other representatives here are representing existing structures and geographic nations and here we have a group about to start something very important. The development of an autonomous Palestinian entity is a major endeavor, full of possibilities that should motivate the Palestinian people and the health care leaders to a special level of commitment to set an example. There is much talk, and there ought to be, about the help that we all can bring to the Palestinian effort to set up a health system to achieve the level of health status that the Palestinian people are entitled to. I want also to emphasize the other direction. I believe that given the newness of this, there is a burden upon the Palestinian people to set an example, to show what is possible in a world that

badly needs such examples, when people work on an international level cooperatively to focus their efforts exactly on meeting the needs of the people. It is not enough for the Palestinians to accept help. They must also help us all by providing an example of the kind of system that can come into being. Whether they choose quality management as a methodology for achieving that is completely their choice. No matter what system they choose though, make it effective.

Eighth, among the stories told about the Japanese reconstruction in the postwar era is the story about the Kirasu, the leadership of Japanese industry. Because the Japanese industry was dominated by families, it was possible to assemble a group of twenty or thirty people, no more, who really represented the economy of Japan. This small group met and set an agenda for the rebuilding of Japan in the postwar era. They were able to make decisions as a collective at the national level. We cannot do that in the United States anymore. We are too big, too cumbersome, too fragmented and we lack national policy at the level that's achievable.

In the Middle East, you don't have that issue. I think it is possible to conceive of, for example, the leadership of Palestinian health care or the leadership of Israeli health care convening in a room. I believe you are small enough and focused enough to be able to formulate a leadership agenda that's not achievable in other parts of the world. I see this as an advantage. I actually think the people in this room represent a significant proportion of the leadership that I am talking about.

Ninth is your style. Many audiences, many groups are passive. They sit there and listen. In English, we say, tune out. You do the opposite of tuning out. You're a group of people who impress a teacher as verbal, energetic, active and open to debate and that kind of energy is what is needed to mobilize ideas and launch new beginnings.

And lastly, I believe that in the Middle East you have the advantage of access to very fine university resources. Since some of the techniques of improvement are scientific in a technical sense, they require engineering skills. They have to do with statistics. They involve data systems and computerization. It is useful to know that there are academic facilities around to act as resources.

For all these strengths, there are some special barriers and I will review them quickly. First, the term authoritarian management has come up. There is a concern in the room that your leaders are too used to complete control and will

have difficulty giving control away. Frankly, that's not an unfamiliar problem. It is a barrier everywhere we teach. The second is the mirror image of that. You fear that the work force may be passive, that you will want to empower people and they'll say, "No, thank you. You're the boss. you do it". Again, I'm not sure how serious a barrier that is. In the United States, we certainly see that same issue.

Third, several of you have told us that your resource limitations may be so severe that there is no possibility of even thinking about quality management at all. I imagine that could be true. At some level of resource poverty, the idea of management goes away. I would say it is a concern that has been raised and some of you perceive this to be a barrier.

Fourth, there is a problem of complacency. Some have said here that the Kupat Cholim is not yet really ready to change. Some have said that the political leadership is too complacent to invest in health care and so on, from country to country. I emphasize again the driving force behind quality management is the desire to change and if the desire to change is not there, that must be developed.

Fifth, there are gender problems. Several women in the group have informed us during the breaks that in the Middle Eastern context, it is somewhat more difficult for women to participate fully in the reform of work. It has to do with cultural norms. I feel as a visitor that it is important for me to repeat the concern and to ask you whether there is indeed full participation, partnership and empowerment across gender lines.

Sixth, there is the information problem. This is true also in the United States. Information systems are needed to support improvement efforts. One must know the results of work. One must understand the epidemiology of disease. One must have the ability to track resource use. One must be able to gain information about processes. I hope it did not escape you as John Bingham described his work how much data he was using and at the bottom of his slides, it said something like the National Center for Health Statistics. There was some resource he was being given that could tell him the epidemiology of disease. Investment in epidemiology and understanding powers of morbidity, for example, is an important investment for you to make.

Seventh, in some of your systems, you do not have a tradition of investing in human resource development. You need to understand that quality management involves investment in the development of people - their skills, their ability to

participate, their courage, their understanding of the need. Mitch Rabkin told us he met with all of his employees in groups of twenty through what must have been months to explain the motivation behind, and to get their feedback on, PREPARE 21. That's a lot of investment in understanding.

Eighth, to the extent that you wish to act regionally, you seem to have a more serious problem than other parts of the world in overcoming national boundaries. Regional solutions for you will be the most powerful solutions. I have little doubt technically that the best available system at the minimum possible price will be available to you only if you work across national boundaries.

Ninth, you're political leaders turn over rather quickly. One needs long-term planning and vision here. Somehow, there must be stability of leadership and I sense that that's an obstacle here.

Tenth, you have complained about regulation, both governmental regulation and unions. It is a problem. With respect to unions, you must involve the union leadership early. They are essentially executives and their participation in the planning, training and conduct of improvement efforts is crucial. With respect to the government, I have no idea. Maybe a piece of advice is to be proactive with respect to regulation. Try to specify the regulatory changes that would be helpful to you. In the Palestinian case, since you don't yet have regulations, but are writing them, be very careful. You understand now the need to write health system regulations that encourage flexibility, innovation, scientific method, training, human resource development and so on. That must be embodied in the regulatory climate of your new system.

Finally, you have a problem in the balance between hospital care and primary care. In the Middle East, the key system is a primary care system, not a hospital system, and you must maintain your focus on community-based care and primary care. The World Health Organization says so. Your leaders say so. You know that's right. And it is obviously difficult to do.

So some good news and some bad news, as we say in America. On the whole, I am impressed with the good news. I see a tremendous potential. So let me now take the liberty of recommending some next steps.

The first and most important step is to develop a shared set of aims. There must be purpose. There must be intention to improve. At a personal level, your intention could be to be a better leader of teams, to encourage activity in

subordinates. It could be anything specific but there must be a personal improvement aim. At the organizational level, you may wish to focus on the experience of the patient. You may have the aim that they not wait. You may have the aim that they be safe. You may have the aim that their medications be delivered correctly. The essential thing is to have some specific aims or the improvement effort is sterile.

At the local level, you may wish to work on inter-organizational cooperation, for example, to speed transfer from place to place or to reduce a specific disease through cooperative efforts among agencies and organizations. At the national level, you can set national health aims. The reduction of violent injuries is an important aim in this region of the world. Nations ought to have health status aims that are clear and that can be embraced and followed through. If you wish as a group of regional leaders to establish aims for child health or for the well being of the elderly population or for the degree of safety, you can do that. Quality management whither in the absence of a clear aim.

Those aims must be monitored systematically through information systems and you must take it seriously. Those information systems are your guiding compasses. They provide an organizing framework for everyone's work. In the United States, there is a parable of two stonecutters. You ask one stonecutter what he is doing and the stonecutter says: "I am cutting a stone. I'm carving a stone." You ask another stonecutter what he is doing and he says, "I am building a cathedral." They are both carving stones but the second one has meaning and understands where his work fits in to the whole. The setting of an aim gives people an opportunity to understand the relationship between their work and the cathedral you wish to build.

Given all these strengths and barriers, what are some specific steps I can recommend to you. I will do that in two ways. I will talk about steps for the individual and organization and I will talk about steps for the entire collective that you represent. First steps for the individual and organization. Here are some specific actions that I recommend you take some subset of.

Number one - learn. There is good literature, excellent books. There are places to visit, friends to talk to. Set for yourself personally and among the key upper leadership group in your organization a learning plan. It may take three months, four months, or six months but a specific plan to study and learn system management methods will pay off in the long run. This, by the way, is your own plan, not what you expect others to learn but what you intend to

learn. As you've heard from the panel, four good topics include a study of systems, a study of statistics and variation, a study of organizational psychology and a study of how to conduct experiments in an organization. Those are examples of learning goals.

Second, as important as you all are, I imagine that there are people back in your organizations who are also important who didn't come. An important thing to do immediately when you return is to share with others in your organization what happened here, otherwise you will feel very alone.

Third, identify a senior leadership group, some eight, ten or twelve people who will make up an ongoing study group in your organization to learn quality management methods.

Fourth, begin to understand the needs better. One useful step is to go and speak with some customers. Walk into the hospital ward, into the community, call together groups of patients and families and ask them questions. How are we doing? What's the best thing that happened to you in my facility? What would you most like to see change? Gather the information, immerse yourself in the experience of the customer to better understand the state of need. If you really are courageous, be a customer. A colleague of ours arranged for an admission to his own hospital to see what it would be like to go through the admissions process.

Fifth, take a very close look at your internal culture. It is exceedingly difficult to get correct information, but ask yourself some questions. Do we have teamwork here or do we emphasize competition among departments? Do people feel involved in improvement of their work here or do they feel excluded from changing work? Is there fear in the organization? Can people take chances or do you play it safe here?

Sixth, involve the doctors and the nurses now. If you are not a doctor or nurse but a senior executive then reach across to the clinicians to get them involved quickly. I believe that's less of a problem here because many of the executives are physicians or nurses and it will be easier for you to do that reaching.

Seventh, these two days do not constitute a complete course. We've left out some things despite Shmuel Reznikovich's suggestion that we work all night. We decided to sleep and therefore we did not have a chance to teach tools. An important element of quality improvement is the learning of a few basic tools - flowcharts, diagrams and others. You may wish to read that particular

literature first. Having studied some tools, set some initial priorities for improvement, not large things, small things that you wish to get started on right now, improvements you would like to make in your facility, even in your department. The point is to get started, to try something even during the learning process and, if possible, make it personal. We urge the senior leader, physician, nurse, executive, to personally conduct an improvement project, not to order others to do it but to personally conduct it yourself. If the first projects are actually conducted by the senior leader then the organization will notice. As Paul said, begin pilot projects soon and provide those projects with adequate facilitators. The development of facilitation skills in your organization is an important item on the agenda.

Finally, let me make some suggestions about continuing the collaborative efforts of the Harvard Alumni group and the group that all of you together represent. What might you continue to do altogether through various representatives? First, I would recommend that you reconvene during the next year with, I would say, three or four people from each hospital that wishes to participate. Perhaps this would be a good time to add primary care or community-based agencies. Three or four people, a doctor, a nurse, an executive, who agree that they will become facilitators of improvement projects in their organization. Bring them back to some central location in the Middle East and train them intensively for a ten to fifteen day period. Provide intensive training for a group of people who when they finish that training will be prepared to lead sound improvement projects back in their organizations. We'll call them facilitators. This will become the Middle East Facilitator Network able to train, teach and lead projects back in their organizations. It will take you about three weeks of intensive work to train such a group.

Second, form that group into a network. Make them a Middle Eastern Club. Allow them to meet each other, four or five times a year to continue their learning, to share their stories and to support each other. Put them into contact with each other through electronic mail or perhaps a newsletter, some mechanism where they can visit and learn from each other. What we are creating here is social support for facilitation.

Third, there are some materials - books, tapes, training materials - which are rather expensive, and difficult to find. I believe it would be relatively inexpensive for you to set up a regional lending library or two in which any people from any country can obtain these materials for a period of time, use them, and then return them to the central library. One important resource of such a library would be translation services, to take the most important

materials and see that they are translated into the necessary languages. It would decrease your total cost enormously.

Fourth, develop a communications link among the facilities interested in quality management no matter what nation they're in - a newsletter, an E-mail linkage - some way for you to share information about what these other 15 hospitals are also trying. These networks, as we call them in the United States, are very useful and provide a source of support and ongoing exchange.

Fifth, as you get going in quality management there will be five teams working on operating room management, ten groups working on reduction of motor vehicle injuries, etc. Find a way to set up a central data base of such teams so that in Ramallah and Cairo and Gaza, in Jerusalem and Haifa, if there are teams working on the same topic, they can be in contact with each other. You will be setting up a regional information system on improvement projects. It would be even better if teams could exchange visits among themselves. Imagine that a team who is doing work on operating room management in Cairo were to visit a hospital in Nablus and a hospital team in Nablus would visit Bersheba and a group from Bersheba would visit... and so on. The learning could be extraordinary.

Now what about the CEOs, the administrators? They're going to want to back away from this. Believe me, every one of them is going to want to delegate this to a subordinate. This must not happen. Remember this is driven from the top or it will not occur. Therefore, I urge CEOs who intend to use quality management in their organizations to become a group, a Middle Eastern group of general directors or chief executives, who will meet perhaps only three or four times a year, but who will keep each other honest. Make sure that you are in the driver's seat, that you are really providing the energy necessary. Groups of executives can be very important in maintaining each other's momentum. It is very embarrassing for such an executive to show up in the group and have nothing to report.

Eighth, outside help. It might be possible to find a group of mentors, or senior experts, perhaps from major corporations in the Middle East or academic units, maybe from the United States or the UK, a group of visiting experts who could occasionally meet with the general directors group or with the teams to discuss how things are going, to give advice, and to help guide the process as a whole.

Lastly, you could set up an annual check point, an audit point, when those of you who are leading quality management or improvement in the Middle East will reassemble for the purpose of reviewing your progress, learning something new, and planning the next year's program. This may give you as a group a lot of energy to keep up the pace of change and improvement.

I wish you very well, with these steps and other, better ones that you will think of. The potential here is enormous. An additional advantage that you may not understand yet is that if quality management could develop in Middle Eastern health care, it could spill over to other Middle Eastern industries and help develop the economy of the region as a whole. This is the opposite of what happened in the West, where TQM first developed in production and then spilled over to health care. Perhaps in the Middle East, health care could be the sector that demonstrates that modern approaches to complex systems have potential.

List of Simulation Workshops

Case Simulation A: Improving Respiratory Care Services
Presenters: *Donald M. Berwick and Paul E. Plsek*
Institute for Healthcare Improvement, U.S.

Case Simulation B: Reducing Radiology Retakes
Presenters: *Ron Kenett and Joshua Preminger*
Kenett-Preminger Associates, Juran Institute Representatives in Israel

Case Simulation C: Developing TQM in a U.K. Acute Care Hospital
Presenter: *Hugh C.H. Koch*
Koch Consultancy Services, Cheltenham, U.K.

Case Simulation D: Improving Operating Room Efficiencies Using TQM
Presenter: *Daniel F. Herrick*
Meredith Consulting Group, Meredith, New Hampshire, U.S.

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Itamar Shalit
Shmuel Sherwin
Miriam Ines Siebzehner
Omran Tamimi
Jacob Witenberg

סימן

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שם הס

חתימה	תאריך	שם השואל

The Middle East Conference on the Implementation of Total Quality Management Systems in Medical Centers created a forum for assisting health care providers in the region to improve the effectiveness and efficiency of their health care systems by learning about TQM concepts from American and European health care professionals. This monograph, containing the formal presentations on the principles and applications of TQM as well as the exchanges they engendered, will be of interest to those involved in improving the health care of all populations in the region as well as in other parts of the world.

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