Management

Improving the way organizations run through participative planning and management.
Process Management and Systems Thinking for Patient Safety

Introduction

To Err Is Human, a 1999 report from the Institute of Medicine, broke the news about the problem of medical error in health care. It said that two studies conducted a decade apart reported that our healthcare system had 44,000 and 98,000 deaths, respectively, caused by medical error per year. If you were to project those numbers out to today, it’s probably even higher.

Process management is an incredibly important approach that could help eliminate medical errors and make patient safety a reality, but it is not being used consistently in health care right now. Many people have either experienced a medical error or know someone who has. In a four-month span in early 2001, I personally experienced four medical errors; none of them life threatening, and all of them related to broken or missing work processes. Medical errors occur because we do not have the work processes in place to support the many wonderful advances in medical technology.

But is process management enough? The answer is no—the problem is far too big. Physicians and nurses can run a pristine practice with process management in place, but unless the back-end factors—regulations, the legal system, and cultural factors—are fixed, it’s all for naught. We must move away from a culture of blaming the person at “the sharp end”—in safety science, this term refers to the doctors, nurses, and providers—and fix the system.

The monetary cost of errors

Research shows just how costly these errors are. One study showed that two out of every 100 admissions experienced a preventable adverse drug event (ADE), resulting in an average increased cost of $4,700 per admission. Another study showed that the total national costs are between $17 billion and $29 billion, with direct healthcare costs representing over one-half of that amount. That wasted money would pay for many nursing positions and a great deal of uninsured care. The issue is not whether we have sufficient resources; rather, the issue is one of misallocation and misuse of resources. Employers are finally waking up to the fact that they are paying for error, and so they are beginning to hold the healthcare system accountable.

Tightly coupled work processes

In his book Normal Accidents: Living with High Risk Technology, Charles Perrow says that certain types of organizations are set up to produce accidents in the normal course of business, due to “tightly coupled work processes.” These tightly coupled work processes can be represented by interlocking the fingers of two hands.
although Perrow does not examine health care directly, healthcare organizations include many tightly coupled work processes just like the industries he examines. For example, if a physician writes an order that reaches a patient successfully, it has to do with many factors beyond how well the physician put pen to paper. Specifically, a successfully executed order relies on other professionals that the physician may not know personally, and more to the point, the physician is not likely to know the scope of their practice.

It is frightening to not be in control of work processes for which you are held accountable. And if a root cause analysis were conducted on the overarching causes of error in health care, I am certain that one of the biggest problems would be the disconnection between workers and their work processes.

When a patient hears that a medical test must be repeated, it often means the test was lost, and a survey of outpatient physicians reported that lost diagnostic tests are the biggest cause of error. Why? Because there is no system in place to show that the test results were ever received, so important diagnoses are not made. Patients are told, “We will call you if something is wrong.” But that assumes the test results were received in the first place, or that there is a process to determine if the test results were received or not. Currently that process is not there in most practices.

In 1995, a baby died at Hermann Hospital in Houston, Texas, where I was working. The resident physician on the case, awaiting her own diagnosis for lupus, misplaced a decimal point while recording the dosage of medication for the boy.

The way we approached the problem by a systemic focus on processes led to an article in the *New York Times Magazine* that was one of the first intelligent pieces written on medical error. It was seen as a turning point in the patient safety movement due to its focus on the system. The headline read, “Who’s to Blame? It’s the Wrong Question.” The truth is that human beings make mistakes. The problem was that every process in place at Hermann Hospital let this mistake go through.

The death of this little boy was more than a serious event. It created a burning platform, and it brought us to our knees. We had to correct our way of working and analyze our processes immediately to ensure that it would not happen again. Clearly, our existing perceptions and methods were not working and needed to be corrected. To that end, we decided that (1) we needed to understand what the variations in our practice were and to determine what that actually meant. (2) We had to be educated in a new way. (3) We had to minimize the steps in the care process. And finally, (4) we had to work to abolish the culture of blame, punishment, and fear, the most difficult step of all.

By building on these ideas, we were able to reduce serious medication errors by 50% (Figure 1 on the next page). But just correcting our processes was not enough...
Offsetting safety interventions, continued

to eliminate errors. Let me give you an example. In the winter of 1998, every hospital in Houston, Texas, went on drive-by status, due to an outbreak of the flu. Gurneys were backing up as patients waited to be seen, and our census, which usually operated around 375, went up to 525. The next day, our chief operating officer said, “This is great. We managed an increase in census with no increase in staff.” But further analysis showed that there were three serious medication errors during this time period. Now I bet an economic analysis would show that those three errors cost a lot more than the compensating staff would have cost.

This anecdote exemplifies a concept put forth in *Normal Accidents*: every time there is a safety intervention, there is a production pressure increase to add to it that negates the safety issue. Another example to illustrate this point comes from the airline industry. A colleague who studies that industry said that every individual flight is now safer, but overall, the whole system is more dangerous because more flights are added to offset the cost of safety interventions. We are running out of air bands in the sky. The same is true in health care. The population is getting older and sicker, but there is no additional money to support an overtaxed system.

At the National Patient Safety Foundation (NPSF), we work to change perceptions about errors and patient safety. Our goal is to shift from an old look that blames people, to a new look that focuses on systems.

The old look in patient safety said (1) clinicians are supposed to be infallible, (2) bad mistakes happen only when people make mistakes, (3) people in organizations that fail are bad, and (4) blame and punishment sufficiently motivate carefulness. It’s euphemistically called “the train and blame game.”

The old look in patient safety did not prevent errors. In 1995, the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO) experienced its own sentinel event. Several organizations that had recently been accredited with commendation had horrible things happen in the following weeks. For ex-
The old look in patient safety, continued

ample, a hospital in Florida amputated the wrong leg, and at the Dana-Farber Cancer Institute, a patient died from an overdose while undergoing chemotherapy. Obviously, accreditation based on the train and blame game was not good enough.

The new look in patient safety

The new look in patient safety says that (1) the risk of failure is inherent in complex systems. In other words, problems in health care are unavoidable; the denial is over. (2) Risk is always emerging. For example, we had a death in our hospital because CVVHD, a new kind of dialysis, was introduced. This procedure involves both pulmonary and renal function but there was no process to dictate which medical specialty should oversee the dialysis. Nobody was in charge. It was a risk that emerged that no one predicted. (3) Not all risk is foreseeable. (4) People are fallible, no matter how hard they try. Systems are also fallible. And (5) alert and well-trained clinicians are crucial.

Getting rid of blame and punishment may not happen in the current generation of healthcare workers, but it is the cultural change that must happen to make errors transparent and to learn from them.

High reliability organizations

Health care is a high-risk industry. Errors are everywhere, if you look for them. What we need to do is incorporate the lessons learned from other disciplines and industries, and adapt them to health care. Specifically, we can learn a lot from “high reliability organizations.” High reliability organizations (HROs) admit that they have errors and discuss errors openly. The lessons they’ve learned show that you cannot eliminate error but you can mitigate it and control the risk involved.

High reliability organizations understand that (1) workers face increased process complexity that is often unmanageable. (2) Everybody is on information overload. For example, consider how many PIN numbers you need to keep track of. Now imagine what it is like to have thirty patients on an eight-hour shift, with insufficient resources and no supplies at hand. (3) Everyone—professionals and patients alike—has increased expectations for perfect outcomes. This is perhaps an unintended consequence of outcomes management. For health care, the situation is even more complicated because the system is taxed by new patient vulnerabilities. Patients are living longer, with multiple, serious chronic conditions.

Acknowledging and auditing risk

High reliability organizations acknowledge that risk exists. Three things are needed to change behavior: knowledge, motivation, and skill. Knowledge has two arms: (1) information or content knowledge, and (2) confronting denial. The hardest piece of all is overcoming that denial to acknowledge a problem exists.

High reliability organizations also audit risk. Auditing risk points out the biggest issue we are dealing with in health care today. The purpose of auditing risk is to learn from errors and near-misses. But to learn from errors, you have to count them. The biggest fear in health care today is that counting and learning from those errors exposes the organization and the individual to litigation. All of the work that we did
Acknowledging and auditing risk, continued

at Hermann Hospital to reduce medical errors by 50% is gone because after a merger, the new CEO was terrified that error reduction work would expose us to litigation.

The National Patient Safety Foundation is currently trying to engage trial lawyers’ associations in a conversation on auditing risk but we have so far met with a great deal of resistance.

Process control

High reliability organizations depend a lot on process control. Process control involves:

- Rules and procedures,
- Training,
- Strategic redundancies,
- Teamwork development, and
- Mitigating decision making.

High reliability organizations have process documents that contain their rules and procedures; these organizations should be able to run regardless of the individuals involved, because all of the steps in their processes are documented. Training means training for performance, not training for knowledge. Strategic redundancies means mapping a process, admitting that there is the potential for error, and building safeguards into the system to prevent the error from occurring. Teamwork development is probably the biggest thing that has to happen for us in health care. And finally, decisions must be made by frontline workers, rather than by people who are not directly involved with what is going on, because the people at the front line understand their work processes and can make better decisions about the care involved.

Leadership buy-in and appropriate rewards

High reliability organizations also stress the need for leadership involvement. If there is no leadership buy-in at the organizational level, you may as well forget about making changes. Without leadership buy-in, the changes will not be sustained and the overall culture will not change.

Appropriate rewards are also very important to high reliability organizations. People are thanked rather than punished for reporting errors that occur and pointing out vulnerabilities that exist in the system.

The Onion Model

As I said before, process management isn’t enough to solve all of the problems we are facing today. Figure 2 (on the next page) shows a socialization model of culture change called “the Onion Model.” Change has to happen at every level of this model, and every component or agent in this system has to be aligned for patient safety to become a reality.

The levels of the Onion Model

The first level of the Onion Model is the practice level. The practice level must consist of not only the physicians, nurses, and pharmacists; it must include patients and families as well. The next level, the organizational level (which includes all
The Onion Model, continued

settings from home health to office to acute care to long-term care) must also undergo massive change to become high reliability organizations. At level 3, the educational level, all healthcare training programs—from consumer to practitioner to administrator—need a whole new way of thinking about education that includes the components of safety science over and above content expertise. Level 4 is the payer level, and this includes employers, insurance companies, and managed care organizations. Here, we are beginning to see incentives put in place. Alliances, associations, trade organizations, and foundations, which make up level 5, are now beginning to focus on patient safety. Level 6, the governance level, includes boards of directors of healthcare organizations, regulatory and accrediting bodies, and the legal system. Level 7 includes product manufacturers, including device makers, pharmaceutical companies, and technology companies. Level 8 includes societal or cultural influences, such as the media, the economy, and art.

Some examples of changes that are happening or need to happen are provided below.

The levels of the Onion Model, continued

The patient and family advisory council

Let’s talk about our core business: what can be done for patients and families? In 1999 the National Patient Safety Foundation did not talk to families—we were scared of them. Calls that came in to the foundation from people who had lost loved ones to medical error were filed under “public complaints.” Worse than that, we referred them to state medical societies, who are not prepared to deal with grieving people who are angry at an unresponsive system. So in May 2000, we took a big step and listened to what people had to say. In April 2001, we held our first patient and family advisory counsel meeting, which is now a formal part of the foundation to advise us on our policies.

This first meeting told us the many things that consumers need and want. (1)
The patient and family advisory council, continued

They want communication tools for different stages of care. Members of the council mapped out the different stages of care, the activities that occurred in those stages, and the communication tools that were needed in each stage. (2) They want a more open, less adversarial culture. (3) They want to be empowered to ask questions. (4) They want to change the expectation of consumers that perfect care is a myth. (5) They want on-site advocacy twenty-four hours a day, seven days a week, to prevent errors. (Most people do not know that hospitals hire patient representatives and patient advocates.) (6) They want to raise awareness among consumers, and (7) they want follow-up support when an error does occur. Follow-up support is important because the literature shows that if people receive compassionate, honest, adequate care following an error, they are less likely to sue. The reason they sue is to get an answer to what happened.

This type of interaction is important because it provides information to our foundation and helps us focus on what the public wants to ensure patient safety.

Level 2: The Organizational Level

Over and above the lessons from HROs, patient safety must be incorporated into the business plan, voluntary error-reporting systems must be implemented, and engineering concepts taken from other high-risk industries must be adapted and implemented into the healthcare setting.

The authority gradient

Teamwork is a key component of HROs. For effective teams to become a reality in health care, the authority gradient that exists in healthcare organizations must be eliminated. The authority gradient refers to interpersonal dynamics in situations of real or perceived power. In these situations, the truth is withheld if it is bad news. A story is told of a general who was promoted in the military and was told, “Congratulations, General. No one will ever tell you the truth again.” Authority gradients exist as a hierarchy between a physician and a nurse, or an administrator and an employee.

To confront its own authority gradient, the airline industry trained pilots and copilots to communicate more effectively with each other. For example, copilots used to timidly ask the pilot, “Are you sure you want to take off?” Today, after crew resource management training, they feel empowered to say, “There is ice on the wings. You’re not going to take off.” As one copilot said, “Now I sit down with my pilot and say, ‘I like you. You’re a nice guy. I respect you, but we are in a high-risk environment. It’s my job to watch you.’” This type of vigilance is exactly what we need in health care.

To confront the authority gradient at Hermann Hospital, we gave an Authority Gradient Card to the nurses that says, “We are a team. I have something to say.” This is important because nurses have traditionally not felt empowered to ask questions. In the case of the baby’s death, a nurse gave medication to the patient knowing that it was wrong, but was afraid to question the physician’s decision.
The Iceberg of Ignorance

The Iceberg of Ignorance (Figure 3) is a model based on the work of a Total Quality Management expert named Sydney Shetafirm. Mr. Shetafirm says that CEOs know 5% of what goes on in an organization, represented by the tip of the iceberg above the waterline. At the other end of the iceberg are the frontline employees; they know 100% of what is happening but nobody asks them. They are the first to see the danger and the last to get the message. Conversely, if the frontline employees don’t understand their connection with the big picture, they begin to have decreased response repertoire, which means they act like robots. They don’t think anymore; they just do the job and they make mistakes.

To advance patient safety, we need to learn from high reliability organizations, who turn the Iceberg of Ignorance upside down. This means new skill sets and roles for the middle manager. Middle managers need technical skills and competencies, but they also need to assume the role of “broker” between the senior level and front line. For example, they need to translate the big picture (i.e., decreased reimbursements driving cost reduction) to the front line, and conversely, transport information from the front line back to the CEO in succinct terms so that the CEO knows what is going on in the organization.

Safe organizations are quality organizations

When Treasury Secretary Paul O’Neill assumed the role of CEO of Alcoa, he chose to focus on safety. When people questioned why he would focus on an area in which Alcoa was already very successful, he said, “If you have a safe organization, you have a cost-effective, quality organization because people have to understand their work processes.” Safety acts as a proxy for overutilization and poor quality. If an organization organizes around quality, everything else will fall into line.
Moving the organizational focus from the sharp end to the blunt end

Healthcare organizations need to stop the focus on the “sharp end” as the culprit in healthcare error, and look instead at the system. At the sharp end is the poor individual who just happens to be in the wrong place at the wrong time. In safety science, the sharp end is defined as the vulnerable place in the system where errors appear; the place where the patient meets the provider. Despite their appearance at the sharp end, errors are due to multiple factors, not just one. For example, wrong-site surgery is usually blamed on the individual in the operating room, but maybe the X ray was turned upside down or lost. At the sharp end is the person who gets sued, blames, and fired, but because the error doesn’t get fixed, the very same error will show up again.

Active and latent error

An active error is the error that you see. It happens at the sharp end and is manifest in individual behavior—what a person does. In contrast, the latent error refers to the hole in the process that cannot be seen, but in reality produced the error. A good example is re-engineering nursing staff so that units have less-trained people and fewer nurses. There is nothing wrong with re-engineering except that it is done and people are often left to hang out to dry, without adequate and ongoing support. For example, there is no ongoing team training to teach a registered nurse how to work with a licensed practical nurse. Healthcare aides do not feel that they are part of the team in health care; often they do not feel able to talk to a nurse because they’re not allowed to write on a chart. Errors can occur because of these holes in communication.

Work-arounds and diffusion of responsibility

Healthcare professionals are masters at work-arounds. Work-arounds are individually devised compensation patterns to accomplish a goal in a system of dysfunctional work processes. When work processes in the system are broken, individuals “work around” the system to figure out a way to complete the task at hand. Although work-arounds may make a job easier and even be the only way to get something done, unfortunately work-arounds also create an environment ripe for error.

Diffusion of responsibility means that people assume that someone else will do it: “If everybody is in charge, nobody is in charge.” You may remember the widely publicized case in the 1950s in which thirty-seven people watched as a woman was raped and murdered. How could this happen? It happened because everybody thought somebody else was calling the police, a classic example of diffusion of responsibility. Applying the concept of diffusion of responsibility to an analysis of the errors in the hospital, I found that errors happened because when someone got busy, they gave up and assumed somebody else would finish the task.

Force function

Force functions are actions that make a system idiot-proof. A good example of a force function comes from your car; you can’t start your car in reverse—you have to start it in park. This is a relatively recent innovation that was instituted for safety reasons. In health care, an example of a force function is taking potassium chloride off hospital units. It’s more convenient for a nurse to have this solution on a unit,
but 7,000 people die every year because potassium chloride is on the unit and is used by mistake. Most places have removed it, thereby preventing misuse errors.

Changes to reduce error can be rank-ordered to show which changes will be the most effective. These changes, in the order of their strength (from strongest to weakest), are:

1. Force function,
2. Automation/computerization,
3. Protocols and preprinted orders,
4. Checklists,
5. Rules and double-checking,
6. Education,
7. Information.

If you look at how the list is prioritized, you’ll notice that the “weakest” changes, the changes at the bottom of the list, are those changes that rely on actions by human beings. For example, checklists may or may not be filled out. Rules and double-checking are often forgotten if practitioners are too busy. Our favorite thing to do is provide people with more information, even though they are already on information overload. The more involved human beings are for that particular change, the less strength that change will have in affecting the process.

The Institute of Medicine report released in March of 2001 includes a conceptual road map for health care in the twenty-first century, outlining sixteen chronic disease populations for health care to organize around. To serve these populations safely, new skills will be needed and training of healthcare professionals must undergo drastic change.

To begin to work on solving problems associated with patient safety, we need to provide tools to all of the people who are in training in this field—physicians, nurses, pharmacists, all practicing clinicians. The four components of safety science need to be integrated into the curriculum for all incoming professionals: instruction in human factors (outlined above in concepts such as sharp and blunt end and active and latent error), cognitive psychology, engineering (these concepts, outlined above, include force functions and work-arounds, as well as strength of changes of implementation), and team training. Given space constraints, only cognitive psychology is outlined here.

Terms from cognitive psychology begin to provide a new language, the language of safety science, to describe and understand the events associated with human
error in health care. Precise definitions of terms are needed to avoid misunderstandings. Three terms—slips, mistakes and near-misses—are provided here as examples.

The term “slip” describes impulse control errors. This is like putting shaving cream in your hair in the morning, instead of mousse. We know what to do; we just do it wrong. The best way to prevent slips is to impose a force function (i.e., move the shaving cream into another room). Slips are responsible for approximately 90% of the errors in health care, and certain working conditions (habit, frequent interruptions) predispose a person to make a slip.

A mistake is an error in judgment, such as putting a nurse on a chemotherapy unit without training in how to deal with those very dangerous drugs. Mistakes occur because we don’t know what to do; we don’t have the appropriate information.

Near-misses are jewels, what we want to collect and learn from in voluntary reporting systems. To know that change is being made in health care, we want to see a large increase in the number of reported errors, coupled with a simultaneous decrease in serious injuries to patients. For the culture of safety to become a reality in health care, the near-miss must become the treasure in health care, as it is in the aviation industry. An example of the aviation industry’s lesson in the importance of tracking near-misses occurred when it was found that a plane crash at Dulles Airport would not have occurred had a near-miss been analyzed that had occurred three weeks before.

**Level 4: Payers**

Payers include employers, insurance companies, and managed care organizations. The Leapfrog Group, a Fortune 500 company, has taken the lead in harnessing the employer community to jump-start patient safety. The LeapFrog Group provides incentives in the form of preferential referrals to organizations who meet criteria based on three specific research findings known to enhance patient safety: (1) the implementation of computer physician order entry, (2) “intensivists” (specially trained and certified physicians) staffing intensive care units, and (3) sufficiently high volume for designated procedures. To date, insurance companies and managed care organizations have been relatively inactive in patient safety. One question that needs to be addressed is whether inappropriate denial of care is a safety issue.

**Level 5: Alliances**

Professional and trade organizations also have a contribution to make to patient safety. The American Society of Health System Pharmacists and the American Hospital Association have made medication safety top priorities. The American Society of Health Risk Managers is focusing on disclosing error to patients. Last but not least, the American Medical Association had the foresight to create the National Patient Safety Foundation and continues to generously support its work.
Level 6: Governance

The government, regulators and accreditors, and the legal system all have important roles to play in patient safety, too. Legislation is pending to create a Center for Patient Safety within the Agency for Health Research and Quality, and to lay out the parameters for a voluntary and mandatory reporting system.

A word is in order about mandatory reporting of errors. In the truest sense, all reporting is voluntary. Mandatory reporting systems will not work if people feel that their livelihood is jeopardized by inadequate confidentiality protections. People will not report errors unless the environment protects them.

As of July 1, 2001, the Joint Commission has issued new patient safety standards, including a standard that mandates that healthcare professionals disclose errors. This standard is important, but professionals need to have training in order to have skills to disclose error. This becomes another competency to be addressed by education; no healthcare professional is trained how to break bad news in a way that will reduce the likelihood of litigation.

Level 7: Product Manufacturers

Issues related to manufacturers center on pharmaceutical companies, makers of healthcare devices such as infusion pumps, and technology manufacturers. For a while, manufacturers did not see patient safety as their problem. Thinking that they make good machines or drugs that are safe and approved by the FDA, they had little awareness that the problems occur after products get into the marketplace and interact with human beings. A big issue in pharmaceuticals is look-alike packaging for drugs and sound-alike drug names. An example for device manufacturers is related to intravenous feeding and drug tubes fitting into similar couplers. A surgeon provided a picture that spoke to the role of product manufacturers in patient safety. The picture showed a catheter with multiple couplers inserted into the arm of a patient undergoing surgery. The surgeon said, “There will be an error reported, and I’m going to make it.” Every one of the tubes on the catheter fit into the same coupler, making it very easy to connect the wrong coupler to the catheter. To date, there are no standards for technology, nor is it regulated.

Level 8: Societal and Cultural Influences

The media is one of several cultural influences that plays a very large role in the public’s view of safety science. The media can be a help or hindrance. A well-known magazine published an issue on workers and health care, with a headline on the cover that read, “Too many jobs, not enough workers. How will we address the coming staffing crisis if we can’t even solve today’s healthcare labor woes?” The cover also included a fictional want ad that read, “Desperately seeking staff. Healthcare industry facing uncertain future needs hundred of thousands of frontline workers. Long hours. Difficult customers. Compensation competitive with the fast food...
The role of the media, continued

industry. No stock options. If still interested, call 1-800-Tough-Job.” This is an extremely negative image of health care and healthcare workers portrayed by the media. Would you want to apply for this job? Would you want someone who applied for this job to take care of you? Of course not. People who work in health care enter the field for good reasons. We have to reconnect to those good reasons about why they are there, and portray health care as an important, viable entity.

Another example of the role of the media is seen in recent articles on wrong-site surgeries and nursing that were very intelligently written, but the patient safety message was compromised by headlines that were sensationalistic. Magazine covers and headlines such as these do not help.

The Onion Model is not enough

The Onion Model demonstrated that managing processes, while critical in creating a culture of safety, is not enough to ensure patient safety. The entire system, including back-end factors such as the legal system, needs to work together to allow learning and improvement to take place.

A case example:
Changing the system at Hermann Hospital

A root cause analysis at Hermann Hospital (Figure 4) showed that the biggest predictor of error in our system was impaired communication between staff members; they basically didn't know how to talk to each other. So a performance improvement program was designed around communication.

We chose the area of medication-use process as the area that would most benefit from improved communication because of our sentinel event (the infant’s death) and because the medication-use process constitutes the most common activity in an acute care setting. The medication-use process was divided into the four steps used in the JCAHO survey: ordering, dispensing, administration, and monitoring.

Figure 4. Root Cause Analysis at Hermann Hospital.

- Communication between staff impaired
- Patient unable to communicate needs
- Communication impaired by lack of output record
- Communication impaired by language barrier
- Environmental desensitization
- Diffusion of responsibility
- Communication inadequate between family member & staff
- Nursing staff working in unfamiliar unit
- Outside personnel present
- Reliance on alarm system vs. human interaction
- Decreased morale
- Anesthesiologist running several rooms concurrently
- Unit/area understaffed
- Densensitization due to incomplete/wrong information
- Stigma of disease state modifying behavior
A case example: Changing the system at Hermann Hospital, continued

The first step was to determine which professional group was accountable for each step; that is, who owned each area.

In this model, physicians own the ordering process. The physicians’ initial response succinctly stated the issue and offered a suggestion: “This is such a culture change to have to make this adjustment. Let’s get big fluorescent stickers to stick on every medical chart,” so we did. We requested that specific information be included on every sticker. For example, physicians were requested to print (rather than write) their name and beeper number on each chart. Physicians had to write the full name of the drug to be dispensed and spell out the microgram units. On pediatric orders, the drug dosage had to be calculated on the chart. House staff (people in training) needed to have someone co-sign high-risk orders (i.e., intravenous digoxigenin or vasoactive drugs).

All these changes sound simple to implement but ended up being very hard. For instance, nurses felt that they had to baby-sit physicians to write their name and beeper number on the chart, which made them angry and unearthed conflicts between doctors and nurses. (Nursing units even installed signs that said, “Got a name? Print it!…Got a beeper? Use it!”) All of these things are documented in the literature as causes of error in the ordering process.

We did introduce a big culture change on our orders: a pharmacist was allowed to co-sign for a physician, reversing the hierarchy. This reversal came as the medical director reframed the role of the pharmacist for the physicians: “Pharmacists are a resource to your practice. They are saving you from getting sued. When a pharmacist calls you in the middle of the night with a question, you will thank them. You will not yell at them anymore for waking you up; you will thank them.” It was a culture change and a statement of the medical director’s courage.

One of the biggest days of fear in my life was when a Joint Commission surveyor said to me, “Tomorrow, I want you to show me how many medication errors you prevented last year.” As it turned out, the pharmacists had a very sophisticated program but all of the data was sitting in a corner because they got yelled at when they called physicians to talk about errors.

Motivation to comply

Initially, Hermann Hospital had trouble getting physicians to comply with changes. So to create incentives, the hospital, which annually paid $10 million to the medical school for residency services, said that the money would be withheld unless physicians complied with the new medication policy. The medical school dean and department chair started encouraging physicians, and compliance increased.

The biggest success of this story is that at the end of the year, physicians’ rate of compliance increased from 68% to 92%, but they themselves were not satisfied. They wanted 100% compliance in the next year. That was the true change; the people directly involved took the responsibility to improve.
Pharmacy changes

When we started monitoring the number of errors that occurred in the ordering process, we found that 33% were either sub-therapeutic or toxic, so we made changes to our pharmacy processes. (1) Consultations with physicians were strengthened, as stated above. (2) We limited drugs to a single strength. (3) We changed vendors to avoid look-alike drugs. (4) We color-coded look-alike drugs when vendor changes were not possible. And (5) we decreased the amount of information on labels to avoid confusion. All of these contributed to the reduction in medication errors shown in Figure 1.

Errors will be reported in the right environment

The culture can change. At Hermann, the first time adverse events were reported to the hospital’s board of directors, our goal was to make errors transparent. Nonetheless, management was nervous. We were pleasantly surprised when board members, some of whom were astronauts, understood how frequently errors occur. As one board member said, “I’m really surprised you don’t have more because this system is so complicated.”

Upon hearing this presentation, a surgeon ran across the room and said, “You missed my errors. They weren’t reported in your presentation.” I realized right then that people will report errors if the environment is right.

The National Patient Safety Foundation

At the National Patient Safety Foundation, we work hard to serve as a catalyst to create a culture of safety in health care. The foundation is now four years old and was founded in partnership with the American Medical Association, 3M Corporation (an engineering company), CNAHealthPro (a payer), and Schering-Plough (a pharmaceutical company). NPSF is an independent, not-for-profit, multidisciplinary foundation with a single focus and a fifty-member board. NPSF is a proven convenor, which means we have been able to get diverse stakeholders together to deal with patient safety. For the first three years of the foundation’s existence, NPSF’s mission was to get patient safety on the national agenda. The 1999 publication of the Institute of Medicine report marked the end of this first phase.

The second phase, now that patient safety is on the agenda, is to serve as the connector between the world of research and regulation and the field of practice. NPSF maintains the world’s largest, most comprehensive bibliography of patient safety literature. We publish a free Focus on Patient Safety newsletter quarterly, and an electronic newsletter twice a month called Current Awareness that encompasses the landscape of what is going on in patient safety. We maintain a web site and monitor a list server for the patient safety community, which will allow a physician in Great Britain to talk to a patient in the United States about issues.

For 2001 we are developing consumer communication tools and promoting a statement of principle on disclosure, and we published Lessons on Patient Safety, which uses the literature in the NPSF Clearinghouse and turns it into real-world lessons.
NPSF’s Applications and Learning Program

One of our most active programs is our Applications and Learning Program. Our Solutions Awards Program gives $10,000 cash awards to frontline practitioners to recognize and disseminate patient safety solutions. Our National Patient Safety Consensus Projects convene groups for two days to come up with an agenda for patient safety in a complex area. The agenda-setting includes the development of a set of prioritized action steps with deep drivers.

We recently sponsored a Consensus Project on pharmaceutical safe use. Defining pharmaceutical safe use includes maximizing the benefit of a drug, minimizing the risk, and eliminating harm. The agenda we developed included (1) reframing drug safety as a national health priority, not as a regulatory issue; (2) developing a collaborative leadership model; (3) engaging consumers; (4) building public awareness about the risk of taking drugs; (5) educating healthcare providers; and (6) stepping up the qualitative process and policy research. An example of an action step coming out of this agenda is the “Think It Through Campaign,” to engage consumers as active participants in safe pharmaceutical use.

NPSF’s Research Program

In 2000, we received ninety letters of intent for our research grant programs, a 100% increase over 1999. These proposals cover areas such as pharmaceutical errors, educational interventions, organizational design, and error and incident reporting. NPSF’s Research Program differs from other research programs in that we actively mentor our researchers. We also advocate for our investigators: if another agency will fund them, we will work with that agency to get them funded so we can fund someone else. And we get results fast.

We’ve also published a national research agenda and a catalog of research in the United States on patient safety. Both are available on our web site (www.npsf.org).

NPSF’s Education Program

NPSF hosts regional forums that convene stakeholders in different states and regions of the country to talk about the issue of patient safety in a safe environment. We are building on these efforts to develop strategic partnerships at the local level. The goal of this effort is to have patient safety become a sustainable reality in different states. One of the big efforts of our Education Program is the development of patient safety curricula. In partnership with the American Society of Therapeutic Radiation Oncologists, we will create a model curriculum that will be used for other medical specialties and we are going to do an on-line multidisciplinary fellowship modeled after executive M.B.A. programs. We are partnering with Harvard University to do an executive session in Minnesota to educate CEOs, and we sponsor the NPSF Annenberg Conferences, known in the patient safety movement as pushing the patient safety envelope forward. For 2001, this conference focused on high-risk communication, and for 2002, the conference theme will be on creating a culture of safety.

Conclusion: Beyond process management to the systems approach

We need to move beyond process management. It’s a critical tool, but we also have to have a systems orientation, rather than a linear one, to health care. This
Conclusion: Beyond process management to the systems approach, continued

means understanding and harnessing complexity. It means aligning all the agents that are acting in the system, which is no small task. It means reconnecting to our core business, or as one physician said to me, “renewing our vows.” We need to have responsible and reliable systems of care. The answers do not lie in regulation or in technology. Rather, the answers are found in the systems approach, and are manifest in systems language: alignment and coalitions, collaborations and partnerships, integration and synthesis.

Health care can change, but everyone must work together to make it happen.

Author information

Joanne E. Turnbull, Ph.D., is a psychologist and social worker by training. Dr. Turnbull and her team at Hermann Hospital designed an error reduction program that not only achieved a significant reduction in serious medication errors but also transformed the organizational culture from “cover-up” to “accountability.” The program drew national attention to methods of proactive medical error reduction and helped sound the call for transforming medicine’s organizational culture to one of increased accountability.

Prior to her NPSF appointment, Dr. Turnbull was a senior healthcare administrator at Hermann Hospital, Memorial Hermann Healthcare System, and the University of Pittsburgh Medical Center. Dr. Turnbull has more than twenty years of experience as a clinician, researcher, and educator, developing expertise in change management and applied research. Her academic work includes over thirty research and clinical publications. She brings a unique perspective to patient safety: a focus on the complex systems and behavioral aspects of error reduction, bolstered by hands-on experience delivering health and mental health services and organizational improvement.

Dr. Turnbull received her bachelor’s degree from the Pennsylvania State University, and received a doctorate and two master’s degrees from the University of Michigan.

Editorial assistance for this article was provided by Daniel Picard.
Improving Patient Care in Hospitals

Author

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Introduction

In the early 1990s things began to change in my profession. It is fair to say that my heart began to break for some of the changes that I was seeing in health care. From my perspective, it seemed that many of the fundamental values I had been taught, literally at my father's knee, weren't being built into the systems of care being created. I didn't understand why these particular changes were happening, and I felt angry that dollars were being put between patients and doctors. I wanted to understand what was happening, which led me through a course of self-study and, five years ago, back to school for a year at Harvard where I received a Master of Public Administration degree in healthcare policy. During that time I had the opportunity to reflect about the changes occurring in health care—why they are happening, what they mean for us as practitioners, and what they mean for patients.

After my year at Harvard and several years in Kansas, I was offered a position at Dartmouth Medical School, which I accepted as an opportunity to explore some ideas that I had been formulating for some time about how doctors, nurses, patients, and others can work together in better ways. I'm happy to report some of that work to you in this article. I believe that everyone reading this—those of us in health care and those in other fields—will be able to appreciate this because all of us, in our own ways, are pioneers, explorers of ways of thinking and acting that we believe have promise for the future for our respective professions.

What does “health care” mean?

When we use the term “health care,” just what do we mean? Where does it all begin? I believe health care began when the first primordial creature came stumbling out of the swamp and the creature next to it reached down and tried to help drag it out. I think this is the fundamental idea operating in health care. That is, we help each other because we never know when we will need that same help ourselves. Health care emerges from relationships founded on trust and, ultimately, in shared human experience. A sense of interdependence and reciprocity underlies what we do in health care, and in life. This connection with some of the most fundamental aspects of our being is what makes work in health care so special, and our responsibilities so great.

The challenge of transforming health care

This is a time of profound transformation in health care. The decisions we are making, and the actions we are taking today, will determine the care that we and those we love will receive in the years ahead. We must take this work very seriously. We face important challenges. Despite our best efforts, costs are very high, quality is uneven, people don't feel well cared for, and many Americans have no health insurance.
There are no easy answers to these challenges. With basically the same health-care workforce we have now, and the same resources, we must find orders-of-magnitude increases in effectiveness and efficiency in order to meet the needs of our patients and society. The challenge is ours: To take what we have and do things very differently.

It’s interesting to look at health care because what it looks like depends, to some extent, on where you stand. From the inside, from the practitioner’s perspective, we see ourselves working hard every day to give patients the best care we can. We care, but we’re busy. Our patients usually do well, and every year they do a little bit better. If a patient makes it through the door of our hospitals or clinics, we care for them; we don’t turn people away. But it’s getting harder to do a good job. Staffing is tighter; resources are being trimmed; patients are getting sicker and older; reimbursement is falling steadily. That’s how it feels from the inside.

From society’s perspective, though, health care looks very different. Costs are way too high and are going up at intolerable rates. Mistakes are made—huge mistakes when seen in aggregate. Also, patients say, “Nobody listens to me anymore.” To make matters even worse, many Americans have no health insurance; estimates are that between forty-two and forty-three million Americans are uninsured out of a population of about 275 million. Those are staggering numbers of people, and the evidence is very compelling that without such coverage health status does not reach its optimum. So we have this extraordinarily difficult situation in that healthcare workers are doing the best they can, under increasingly difficult conditions, and yet important needs of patients and society are not being met. It is not an easy time.

We often approach problems by looking for someone to blame; but I am increasingly convinced that this approach is very unproductive in health care. One of the most surprising conclusions I came to after studying these problems for several years is that, in most cases, the problems we face in health care are the result of success, not failure. Most of our present problems are the unintended consequence of well-motivated, successful efforts to solve previous problems. Let’s take a look at our concerns of cost, quality, and loss of a patient center, one at a time.

First, there is the concern for cost. We are nearing resource limits in health care. What is the cause of the cost problem? At first it seems easy to assign blame; to assume the cause must be waste, or fraud, or abuse of the system. But careful studies have shown the reason for the problem of high cost lies in another direction. Our high costs today are directly related to a major problem of an earlier era in health care: the problem of limited medical capability.

In years past we couldn’t do anywhere near as much as we can today. In 1957, when my father graduated from medical school, much of the care we are able to offer today as a matter of routine did not exist. For example, in my specialty of cardiac surgery, the first operation using the heart-lung machine occurred in the year
The link between cost and capability, continued

of my birth, 1953. The first heart valve was implanted in 1960. The first coronary artery bypass operation was performed in 1965, the year that Medicare was created. It wasn’t until the 1960s, and even the early 1970s, that hospitals began developing intensive-care units, coronary-care units, and other specialized units that we take for granted today. Administering many of the drugs that we have today also began then. In short, since World War II there’s been a phenomenal expansion of medical capability.

Health care has become more complex—we have added exponentially to what we can do—but costs have increased proportionately as well. Our very success at solving an old problem, limited medical capability, has unintentionally created a new problem, high cost. We have overcome limits of one kind but have reached limits of another kind—limits of the societal resources that can be dedicated to health care. This is not to say that we should ignore waste, or fraud, or abuse. But a much greater challenge lies at the center of the cost problem. And the more successful we become at solving capability problems—the artificial heart comes immediately to mind—the greater our cost challenges will be.

There are only two general solutions to the cost problem when viewed from this perspective: either we do less for patients, or we find new ways to do more. For me, there is only one acceptable answer.

Viewing the issue of quality

Next let’s consider the issue of quality. There is an understandable concern for quality today in health care. The recent Institute of Medicine reports on medical error are startling. How can we, with a clear conscience, tolerate 100,000 people a year dying in this country due to medical mistakes? The answer is we can’t! Recent studies have questioned the magnitude of the IOM conclusions, but even one preventable death is too many. How shall we think about his problem? Just as in the case of cost, I believe that our quality concerns today are grounded in success, not failure. Let me explain.

Concern for quality is not new in health care. What is new is an emerging understanding of the importance of system-based approaches to quality, approaches that have proven themselves in other industries that are now achieving quality at six-sigma levels.

The time-honored solution to the concern for quality in health care has been a professional commitment to individual responsibility. When I was a medical student in the 1970s I was told: “Don’t trust that laboratory report; look through the microscope yourself. Go do this, then go do that, because there is no greater responsibility than caring for the life of another person.” Well, we took that to heart, and have created the best system that can be made by self-reliant, individual caregivers doing their utmost not to make mistakes.

We have succeeded in developing deep cultures of individual responsibility that were appropriate in an earlier era, but paradoxically are now unintended barriers to the adoption of system-based approaches necessary for taking quality to even higher levels. We have no familiarity with such approaches and resist them. We have been trained to be distrustful of anyone except ourselves. Our old medical philosophy said, “This is the most important task you could ever have. Do not make a mistake.”
A culture of mistrust, shame, and blame is the other side of this intense culture of responsibility. In other industries, such as aviation, which I’ll cover more directly in a little while, the approach was and is very different. It is assumed that people will make mistakes, and systems are built to keep what is understood as inevitable human error from causing adverse events. So, again, our challenge is not based in failure or lack of concern about quality, but rather it is an unintended consequence of success from an older perspective.

In 1924 my grandfather began his medical practice. When a patient came to him he knew that patient by name. He knew the patient’s family situation. He knew that he might not get paid but that that would be all right. He knew that maybe the patient was coming in because he and his wife were fighting, or were worried about their finances, and not necessarily because of stomach pain. My grandfather also knew that he could help craft a solution and that when the patient left he would feel truly cared for in a holistic way. The term “patient-centered care” describes this type of relationship.

We have a wish, in health care today, to regain this kind of relationship, this sense that health care is really in the service of the person. We hope that health care will be in the service of repairing a disrupted life, not just in fixing a metabolic abnormality or correcting this or that condition. The wish is for health care to truly be in the service to the whole patient. That’s what the term “patient-centered care” means. But care like this is hard work, and it gets harder every day. Our systems no longer support it.

Why have we lost our focus on the patient as a person? Again, I think this is yet another example of an unintended consequence of successfully addressing a previous problem. This problem of the loss of a “patient center” in our work became prominent as care itself became more and more complex. The challenge then was mastering this increasing complexity and sophistication of medical science. The solution was specialization. The unintended consequence of this solution was a gradual emphasis on treating medical conditions, not people. Health care became specialized, and now we have a heart doctor, a lung doctor, a brain doctor, a cancer doctor, but we never seem to have the patient’s doctor anymore. Our success in solving the problem of complexity created a new problem. Now the patient says, “No one listens to me anymore.” We are learning that great care of organs and diseases sometimes feels terrible to the whole person. Our past success again set the stage for our present discomfort.

The same paradox is true of the way health care is organized, and of our usual work patterns. Most of the organizational structures of our healthcare system are legacies from the 1920s. They are the result of well-intentioned efforts by healthcare professionals who were attempting to organize care in the best way they knew at the time. Those ways of organizing care were, for their time, a great advance. But, here we are today, with those same organizational structures and those same work patterns. In many cases those organizational structures and work patterns no longer help us. In fact, they often stand in our way. But because that is how we were...
A legacy from the 1920s, continued

trained, and for the most part how we still work, it is hard for us to even imagine
doing things differently. It is not easy to step outside of the cognitive models that we
use to define and organize our world. But we must. We can do better.

Commitment and care as vital forces

I’d like to shift, for a moment, to some positive things in health care. There are
some very valuable resources in health care that are often forgotten and left unmen-
tioned. The most important is the reservoir of care and compassion that does exist in
the healthcare workforce. I marvel as I watch the nurses in the Intensive Care Unit
caring for our patients, for the families involved, worrying over their needs. The same is
true for every healthcare professional. It’s not fashionable to recognize it, or even
acknowledge it right now, but the care and concern are there. This passion is crucial.
Its power should never be underestimated. Throughout the history of health care
this commitment to give patients better care has been the most important driving
force for improvement, far more significant than economics, regulations, or any other
incentive. I see this commitment as a vitalizing energy force capable of transforming
our healthcare system. Our task is understanding how to harness it productively.

The notion of customer

I’d like to say something about the idea of customer service and the term
“customer.” Now, I’m often a customer, and I am also a healthcare practitioner. I
would agree with many who say that in health care there is a lot to be gained from
thinking about ideas of customer service in business. I’ve never been a business owner,
and I don’t understand the notion of customer exactly from that perspective. But as best
as I do understand it, “customer” is an important word in business, and fundamental to
the concept of customer in business is the idea of respect for the individual.

But I also want to say, as a healthcare person, that there isn’t a perfect fit
between the term “customer” and my profession. We often feel a sense of responsi-
bility and connection to our patients that transcends what I understand the cus-
tomer/business relationship to be. It’s a deeper relationship and one that is much
more personal. In a sense it is similar to the responsibility that one feels toward a
loved one. So I have a little difficulty with the word “customer.” My relationship
with my patient means even more to me than that. But for many people the word
helps to define relationships of service, so I don’t mind it too much. We just need to
remember how special, sacred really, this relationship must always be. The great
surgeon and educator Francis Moore said it succinctly: “The fundamental act of
medicine is assumption of responsibility.” This human connection, of responsibility
for another, is at the center of health care.

Circle of identity

Related to this sense of responsibility for a patient is a concept that one of my
friends, Martin McKneally, calls the “circle of identity.” His thinking has helped me
understand what my role is when I ask for consent for a procedure or recommend a
particular course of treatment. By “circle of identity,” Martin means the way in
which we grow to become fully responsible, well-functioning individuals.
To his way of thinking, when we are born our “circle” is rudimentary, kind of empty, and by the time we get to around twenty-one or twenty-five that “circle” is pretty well fully formed, although fluctuations do occur. Over the years those who teach us, our parents and others, step in and out of that circle, helping us when we need that help; but over time they’re always stepping back, with the goal of making that circle intact, complete, bright and vital.

In normal business relationships, customers are presumed to come with a fully intact functioning circle of identity. The world of business presents people with choices; it expects them to make rational, informed decisions, and live with the consequences.

In health care we have made mistakes in both directions regarding the circle of identity. In earlier eras health care grievously stepped too far into the patient’s circle of identity, depriving the patient of the dignity of making independent decisions. But today we are at risk of making mistakes in the other direction, of assuming that a person can be a rational decision maker when that is just not possible for them. Very often the thing that brings the patient to us also works on the circle of identity. For example, if a patient suddenly has a heart attack, that patient may not be able to decide clearly and rationally about risks, options, and whatever else. Part of the patient’s circle of identity may become incomplete; although the circle may still very much be intact in its majority, there may, nonetheless, be gaps.

What my friend has helped me understand is that it is my professional duty to step forward just enough to make that circle whole, to lend a little of my own identity to that patient for a while. I can do this in different ways. I might say: “Here is what I think the facts are.” “Here is what I would do for myself or a member of my family.” “Here is what I recommend to you.” I might also ask, “What other information can I provide for you to help you make a good decision?” The reality is that I’m steering a lot of that interaction, and if I say otherwise I don’t think that I am being totally truthful. Our present laws and procedures assume otherwise, but the reality is more complex. The reality is that the patient’s circle of identity often is incomplete; and health care, almost uniquely in our society, requires practitioners to step forward and help repair that. It is our ethical responsibility to step forward. But equally we have the responsibility of always working ourselves out of that circle, of making that patient whole again.

I think this vulnerability, and our professional responsibility because of it, is what underlies what has been called the social contract of health care. Sam Thier has written about this eloquently. The social contract of health care says, in essence: *Society grants to the health professions the privilege of caring for the sick, and many other honors and rewards, in exchange for the promise that the welfare of the sick will always be held before all other concerns.* These are the absolute terms of our relationship with those we care for. We violate this social contract at our great peril, as managed care is learning the hard way. Any other relationship does harm to the essential soul of our profession and will not be tolerated by society. This basic principle must lie at the heart of any new system of care.
Importance of self-care

I have been discussing some basic principles that underlie what we do in health care: ideas of reciprocity, patient service, the circle of identity, the social contract of health care, and so forth. I also think that we need to add self-care and peer-care as essential principles in a healthcare system.

We all need to take on the responsibility of caring for ourselves; it is an essential first step. Dr. Herbert Benson, as you may recall from his article in the previous issue of this Journal, thinks of a healthcare system as a three-legged stool, with procedures and pharmaceuticals being two of the legs, and self-care being the third leg. It is worth thinking about self-care, because we often shortchange this leg.

The concept of self-care is deceptively complex. Self-care is not the norm in our present systems. Instead, present norms tend to keep “ownership” of care within the system itself, in effect keeping patients at a distance from the information and resources they need to care for themselves. Again, I don’t believe this has been deliberate. It’s just the way it has worked out. But the result is that we have unintentionally disenfranchised the most valuable workforce in health care, our patients themselves. Not only do people want and need the information necessary to manage their own illnesses, there is a practical side to it as well: we will never be able to care for everyone as well as we would like unless we all step forward as true partners in that care.

There is another dimension to self-care that begins very close to home: how healthcare practitioners work and live. The news here is not good. As a doctor, I exist in a culture of tremendous overwork. Doctors, especially in the training years, may stay up all night and still go to the operating room the next day. We may start our days before dawn and get home at 8:00 or 9:00 at night. Nurses and other caregivers are being asked to do more and more with less and less. This tendency toward overwork is epidemic in American society as a whole and is especially true in health care.

A colleague of mine once asked me an interesting question that really struck home for me: “How can we take good care of our patients if we don’t take better care of ourselves and each other?” Her point really is worth considering. We are trained and acculturated to look outward, toward our patients and our work, and not to look inward at ourselves. We often model in our own life choices that are exactly the opposite of what we hope to accomplish for our patients.

What is quality?

Obviously, when you’re working with a patient, or on a person’s heart, you want to do the highest-quality work you can. But what does that mean? Just take the simple question “What is quality?” It’s worth thinking about that for a minute.

I don’t know that there’s a right answer, but one that I love came from an elderly lady in the second row at a talk that I once gave. The members of the group I was addressing were all senior citizens. Many were eighty or ninety years old. I asked the group to think of things in their life that exemplified “quality.” The gentlemen talked about certain kinds of things they had made, and the ladies spoke of certain things they had baked, or sewn, or of relationships. At first they were very traditional in their gender divisions. They agreed that quality was hard to define, that you just
What is quality? continued

sort of knew it when you saw it.

But then one lady put her hand up. She said, “I think it’s just paying attention
to what you’re doing.” I was really struck by that. I said, “Tell me more. What do
you mean by that?” and she said, “Well, you just look carefully at what you’re doing,
you reflect about it, and then you try to do it better.” The group agreed. I thought,
“Well, that’s pretty interesting.”

We eventually decided that quality is less a property and more a way of being. It is
what happens when you pay attention to what you’re doing, reflect on it, and try to do
better as you go along. I think it would be hard to come up with a better definition.

Linking quality with learning into an “improvement loop”

I have thought about her answer a lot. What I eventually understood she
meant is that there is a relationship between quality and learning. I think she was
saying that quality constitutes part of a learning journey. I eventually linked that
thought up with another idea about learning that was expressed by Gregory Bateson.
Gregory Bateson was married to Margaret Mead, the famous anthropologist. He was
a highly original thinker, back in the 1950s and 1960s, one of the early theorists in
the field of cybernetics. He said, “All learning depends on the ability to detect
difference.” His point was that if everything seems the same, if you can’t detect any
difference between one state of being and any other, how could you possibly learn?

So, if you put together Bateson’s interesting quote that learning depends on the
ability to detect difference, and my audience member’s idea that quality is a learning
journey, what you get is something I like to think of as the “improvement loop.”
Here is how it works. You have some process, and you want to build quality into it.
So you add learning. You measure something about the outcome of your process;
you compare it for a difference with previous outcomes; you reflect on the differ-
ence; and then you try to do better. You keep running this over and over again, and
pretty soon what you get is “quality.” Easy as pie.

What is our level of self-awareness?

Clearly, though, you need some level of self-awareness to even know you have a
process going. In health care, many people aren’t at this level of self-awareness when
it comes to systems and processes. They’re just doing something. If you stop and ask
them how it’s happening, they’ll just say, “Well, I’m just being the best doctor or
nurse I know how to be.” They don’t really understand what they are linked into and
that everything that they do is rising or falling depending on the environment that
they are in. So, as a first step, you have to have some degree of self-awareness.

Measurement and quality

As a second step, you also have to have some sort of measurement in place.
Most healthcare systems do not have outcomes-measurement systems, except in very
crude forms. The systems that do exist are more often used for judgment and
monitoring rather than as learning tools.

Within the vast body of what we do there is a relatively sizable domain known
as “evidence based” practice: treatments for which there are reliable, scientific evidence
Measurement and quality, continued

that if you do this, that will happen, and so forth. It is important to remember that this body of knowledge changes over time. When I was a medical student one of my teachers said, “Half of what I’m teaching you is wrong. The problem is, I just don’t know which half.” It’s evolutionary, I guess. Still, at any given time, there is knowledge that should be put to use. It is interesting that, of all that we do in medical practice, most estimates are that only about 15% to 20% has a true rigorous evidence base, a scientific basis. A good deal of the rest of it is sort of experiential.

There’s been quite an interesting push over the past ten years or so in health care for more evidence based practice. Let me give you a very concrete example. There’s an overwhelming body of evidence that if you have a heart attack you need to be on a class of drug called a beta-blocker. Patients on those drugs have a dramatically lower risk of having another event or of dying. There’s clear evidence for it. It’s very well known. And yet when studies are done to see, at any given hospital, what percentage of heart attack patients went home on a beta-blocker, it’s a remarkably lower number than you would wish it to be. Somewhere between 60%, 70%, or maybe 80%, but nowhere near the 98% or 99% that it ought to be. A huge part of this is because, until recently, there’s been very little measurement of how many people in hospitals actually went home on beta-blockers after heart attacks. It was just assumed that good doctors would make sure that their patients were on beta-blockers, and to the extent that good doctors could make sure good things happen, patients were on beta-blockers. We need to measure how procedures that are known to work are being applied. This process type of measurement is very often not being utilized in health care.

So we need better systems of measurement. But we need even more than this. We also need to have some sort of structure that affords an opportunity for reflection at a system level. In health care, with lots of different people involved, there’s no way we’re going to be able to talk or think effectively about how to change what we are doing unless we get them all together somehow. And so thinking about measurement takes us back again to the idea of optimizing the social architecture of health care.

Self-conscious and unselfconscious forms

Let’s touch upon some philosophical origins and roots. Christopher Alexander, an architectural theorist at Berkeley, authored three books: *Notes on the Synthesis of Form*, *A Timeless Way of Building*, and *A Pattern Language*. Alexander, interestingly, is not widely known in the architectural world, but in the world of computer programming, especially object-oriented programming, he’s considered something of a god. Alexander has an interesting idea that relates directly to measuring and improving what we do in health care by optimizing our organizational structures. He says that human beings create structures or “forms” in at least two ways, which he calls “self-conscious” and “unselfconscious” form making. In “unselfconscious form making” we engage in the kind of direct creative work involved with making, say, a primitive mud hut. With the other type of form making, which he calls “self-conscious form making,” humans participate more indirectly, for example by contracting out to someone like I. M. Pei to build them something really fancy.
Alexander says we were always learning and always improving when we were involved with unselfconscious form making, because the result was immediate. You’d build a hut, and then you’d go live in it. If it rained, and the roof leaked, you’d daub a little mud up there, and if that didn’t work, you’d build your next hut in a way that remedied the leak. However, with self-conscious form making, less of a connection exists between the architect who designs the building, the builder who raises the structure, and the people who eventually live in it.

Alexander suggests that the result of engaging with “forms” in an explicitly self-conscious way is often this: we make terrible buildings. Alexander says, “In unselfconscious form making, you do it, you live with it, you change it. This happens almost subconsciously. But it’s different in our modern world. Where things get more complex, the connections don’t happen.”

So am I suggesting that we simply go back to simpler times? Of course not. The reality is that complexity is here to stay. We just need to be smarter about dealing with it. Alexander is not actually criticizing complexity. He is pointing out that increasing complexity has separated us from an immediate and intuitive knowledge of the cause-and-effect relationships of our work. The way we deal with complexity in organizations has effectively decoupled our natural improvement loops. To build quality into our work we need to get those loops working again.

I’ve talked about how improvement loops bring together doing and learning. And about how learning begins with the ability to detect differences. Yet, there are limits to our ability to measure differences. If the result of a process takes a long time, or if changes are subtle, there may be differences that we are unable to see with clarity. So we need somehow to magnify them. That’s what run charts, statistics, maps of variance, and so forth were made for. They are tools that magnify small changes. We need these tools. They enable us to view subtle changes clearly and respond to them appropriately. In health care the desire for quality is evident. But the tools needed for seeing differences aren’t always well used. We are going to have to begin to use our tools. They are crucial for measuring our processes of care and, in turn, for improving them.

When we talk about transforming health care, we are basically talking about innovation, which means doing something that’s never been done before. Economists often divide innovation into two types: “product innovation,” which is improving the goods or services of an industry, and “process innovation,” which is improving the production resources of an industry.

In health care we have had remarkable product innovation, and almost no process innovation. We have better and better drugs. We have better and better operations. We have better ways of monitoring, testing, checking this, and checking that. Yet when we look at how the production resources in health care are assembled to create those innovative products, we have really had very little progress for most of the past century.
It’s not the same in other industries. For example, if you go into a computer plant today and compare it with thirty years ago, you will find that the computers are much better and that the production process today bears no resemblance at all to how computers were made thirty years ago. Both the product and the process have changed!

In health care, for all the advances that have been made, the “production process” works almost exactly the way it evolved a century ago. It is more complex, certainly, but the fundamental ideas of organization, patterns of interaction, modes of communication, and information flow are structurally just the same. Almost all the knowledge that has been used to dramatically change production processes in other industries has just completely bypassed health care. It’s interesting to ask why.

In most industries, the primary driver for process innovation is cost reduction. Until relatively recently, cost-consciousness has not been part of medical decision making. For most of the past century, for good reasons, medical decisions and cost decisions were kept distinctly separate as a matter of ethical principle. When the Medicare program was created, it was based on cost-plus reimbursement. In theory, hospitals and doctors did whatever was right for the patient, and the system paid for the cost of doing it. When I was a medical student I was taught, “You’re not even to think about cost.” I remember when the CAT scan first came out and we were trying to figure out when we should use it. We were basically told, “Young doctor, your job is to take care of this patient the best way that you know how. It’s someone else’s job to figure out how it is going to get paid for.” There were no incentives built into the system to keep costs down; in fact, they were deliberately built out of the system, because the intent was to be sure that people got the best care possible.

As a nation we have just finished a ten-year experiment with managed care, which was basically an attempt to rapidly bring process innovation into health care by intense cost-consciousness. I believe the experiment has failed. We hear a lot about adopting ideas from business and industry, and there is a lot that business has to offer health care. But I think we’ve found out that differences exist between health care and business, and that these differences can be profound. People find it very objectionable to have cost concerns layered over clinical decision making. For fifty years we have enjoyed the results of explosive product innovation in health care, yet because we’re fifty years behind in process innovation everything is staggeringly expensive. Yet, when we try to drive cost-consciousness into health care by competitive market forces, we hate what we produce.

So this is our challenge in health care today: How can we drive process innovation in health care, yet not distort the essence, the fundamental spirit, of what health care is? I think the answer is in reformulating the question. The question we need to ask is “How can we help healthcare practitioners actualize their commitment to better patient care by incorporating process innovation as an ethical dimension of their work?” It think the answer to this better question lies in the clinical environments we build around them.
Creating an optimum environment for system improvement

I believe the key is creating optimal environments for an inside-out transformation for health care. This is a far better strategy than focusing on economic incentives, oversight, or regulation. The latter is the tack that we’ve taken over the last few years, and it’s proving to be a recipe for making a healthcare system that patients neither want nor will tolerate.

I think we can make a system that works better than one founded on external pressure, where somebody from the outside is always saying, “You must do a better job.” I think that we can, instead, set a stage that allows for the emergence of this natural tendency of people who are working inside the healthcare system. We must create a system that allows these deep feelings of human responsibility, of compassion and care for others, to naturally arise and become active in shaping our patterns of care and interaction. Right now we don’t have structures that allow this commitment to translate into reduced error, better outcomes, and so forth. I think that the care and compassion of our healthcare workforce is the best hope for driving healthcare transformation. My belief is that health care will be transformed by the shared effort of people inspired by the vision of giving better care. What is necessary is a different infrastructure that actively supports the natural inclination of caregivers to do the best job for their patients.

Productive environments for innovation

Much is known about environments that produce innovation. Innovation has been studied extensively, and there’s a huge amount of literature about this. Perhaps the best example of an environment designed specifically to produce innovation is the Lockheed Skunk Works. The Skunk Works developed almost every new fighter jet that our country produced from World War II until almost the end of the century.

Basically, the leadership at Lockheed took a big manufacturing plant and made a little subdivision within it. They essentially said to the employees, “You people are not quite beholden to us in the same way that everybody else is. We’re still going to hold you accountable for your work, but we’re going to give you some protected time, we’re going to give you some undesignated resources, and we’re going to let you make decisions right on the spot.” And then they took a most important step. The leadership brought the pilots, mechanics, and engineers together and put them all in a single room; they arranged their desks so that they literally bumped shoulders and elbows with each other, creating opportunities for them to interact with each other on a frequent basis. It was in those informal interactions that the different groups all saw one another’s ideas on the subject: Pilots looked at the airplane one way, engineers viewed it in another way, and mechanics perceived it in still another way, even though they were all looking at the same airplane. As the different groups talked and interacted, new ideas began to emerge—spontaneously. That’s where innovation happens: at the intersections between disciplines, between people who each see what is apparently the same thing from slightly different viewpoints.

What’s been discovered is that innovation occurs in environments where there’s a very flat hierarchy. A rigid hierarchical system tends to discourage innovation. The
latter is more for running the show once you’ve got something figured out, but definitely not for figuring out something in a new way. It is known that in addition to this flat hierarchical structure, when aspiring to generate innovation you need a number of elements:

1. You need **multiple viewpoints**. This should be facilitated by specific ways of improving communication, even if it’s just bumping elbows with the person next to you.

2. You need **authority to make decisions**. If you have to go through five or six layers of approval to try something new, then nothing is going to happen easily. It is much better to be able to say, “Let’s go do this today.”

3. You need some **flexible resources**. Interestingly, though, innovation generally happens best when resources are not lavish. The garage in which Hewlett and Packard created their company comes to mind. They were just two people trying to figure out how to do something with what they had, and just a little more. If your resources are too much and too lush, then innovation may kind of retreat or recede from you.

4. You need **clear goals but open means**. Over and over again, innovators at Lockheed had clear and measurable goals. They would say, “We will make a new jet that will fly at three times the speed of sound in two years with this many dollars.” It was that specific. But they were careful not to mandate the “how.” The “how” is where innovation lives.

5. You need **intrinsic motivation**. It is always the case in innovation studies that people who are passionate about the thing with which they’re engaged do a dramatically better job than people who are bribed, beaten, or encouraged in any other way. Intrinsic motivation trumps, by astronomical amounts, extrinsic motivation.

6. You also need **leadership** of a unique kind. Kelly Johnson was the leader of the Skunk Works, and he did two things. First of all, he gave his people a lot of room to do things on their own. He inspired them, gave them support, and helped them believe in themselves. So he led them inwardly, but then he also protected them from the outside. He said to others, “You stand back. These are my people. If you have a problem, you come to me.” This type of inward-outward leadership is enormously important and enabled the type of thing that was happening there.

So how does this all translate into health care? Unfortunately, not very well. In almost every category, the attributes known to produce innovation are rare in healthcare organizations. In fact, patterns of organization in health care are usually just the opposite.

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**Health care: information transfer in a relational context**

Now, let’s take all this discussion and begin to focus it. Where we are headed is to the bedside of our cardiac patients in Concord. I am going to tell you how we are taking all of these ideas and giving them form in our program there. But to understand what we are trying to do in Concord, there are two more ideas that we need to consider. These are about the central role of information transfer in health care and about the small-scale organizational structures, which Paul Batalden calls “micro-
Health care: information transfer in a relational context, continued

systems,” where the real work of health care actually takes place.

Health care is, in some sense, a process of information transfer in a relational context. This may sound kind of strange, but look at what I do. Yes, I operate on people. I talk to them. I examine them. But I’m also involved with something else. I’m taking in information from patients about how they are doing, and I’m pulling that in with other information I’m learning about their condition from tests, and the like, and I’m adding to that base what I have from my medical training. I may supplement this by looking things up, or researching things in other ways, and then I apply all this information, with other resources, to try to make the patients better. This is all done in a context of relationships; it’s information transfer in a relational context.

To me, the efficiencies we are seeking in health care will come from making the relational contexts function as “information superconductors.” This implies that virtually no energy at all is being used to make the information flow effortlessly throughout the entire system. It also implies that the transfer of information is absolutely precise and complete, and is communicated to every single part of the system involved. I think that if we direct our efforts toward the efficiency and precision of information transfer, all the other things, such as cost and quality, will follow.

Seeing the microsystems

Paul Batalden and other innovative thinkers at Dartmouth Medical School have been very interested in what they call the microsystems of health care. People in health care have tended to think about systems in terms of health plans, hospitals, and other larger organizational structures. But in reality, according to Dr. Batalden and his colleagues, the functional unit of health care turns out to be something else. The functional unit, or “microsystem,” is the small group of people and resources that are brought together on a daily basis around the needs of a particular kind of patient.

What is interesting is this: If you look at the organizational chart for most healthcare institutions, these microsystems are nowhere to be found. They’re almost invisible.

Learning from architectural theory

Christopher Alexander, the architectural theorist I mentioned earlier, looked at various patterns found in nature and then looked at architecture. He said, “You know, there are certain patterns that just make people feel good. For example, if you are looking out through a number of windows at a garden and the sun is shining in, you feel great. On the other hand, if you’re in a great big room that has no windows, or maybe one tiny window on the north wall, you feel terrible.” Alexander went through various patterns that recur across the world, and across time, and he developed what he called a “pattern language” for architecture. He suggested that you could take these patterns, put them together, and construct buildings out of them. As it turns out, his theories didn’t work very well in architecture, but they worked great in computers. The entire field of object oriented programming is built on packets of reusable code that are pieced together in the way Alexander envisioned for his buildings.

Regardless of how the concepts are used, I regard Alexander’s thinking about
Learning from architectural theory, continued

patterns to be hugely important. In the book *Notes on the Synthesis of Form*, Alexander puts up a random pattern of dots connected by lines and asks, “OK, how would you cluster this if you were going to group things together?” Alexander suggests that you should group things by taking those that are richly connected in some way and putting a boundary around them. Where there are sparse connections, you recognize that as a place where boundaries should cross.

What does this have to do with microsystems? The idea is that if you have a certain set of people who work together all the time, then you ought to put some sort of organizational circle around them. The boundaries should cluster together people with a common purpose. The individuals forming the circle’s interior, then, have to match one another in some kind of significant way.

Organizational circles in health care

In health care almost all of our organizing circles were created back in the 1920s, when scientific medical practice first came into being. We’ve changed almost everything that we do since then except for our circles, except for our way of organizing healthcare relationships and processes. When I look at most healthcare organizations, I see groups of people who come together every day to care for certain kinds of patients; but there are rarely well-defined organizational boundaries around them that match the way care is actually given. The nurses report to nursing leaders, the doctors are over here, the physical therapists are over there, and management is somewhere else. We pull all these people together around a patient, and then when the immediate work is done, everyone goes back to their own departments. The old boundaries don’t match the way we work anymore. They don’t help us, and sometimes actually get in our way.

Recognizing the circle, the microsystem, at Concord Hospital

At Concord Hospital we are working to build circles around people who do similar things—not similar in their exact professions, as, say, doctors or nurses, but similar in that they are all coming together to care for a certain kind of patient, say, a heart patient. Now, wouldn’t it be nice if we could put a boundary around all those people so that, in some metaphoric way, they became similar to the “open room” with the warm sunshine coming through it that Alexander spoke of? We need to begin to pull people together like this.

I think that a fundamental design principle for healthcare systems should be this: *Patterns of organization should reflect patterns of interaction. And patterns of organization should match patterns of patient need.*

The key to healthcare transformation is optimizing the patterns of interaction, and the information transfer that occurs within those patterns, by making them respectful, effortless, and precise. This is mostly about facilitating how people work together. I think that visualizing our relationships, recognizing the rich connections and the sparse connections and getting the boundaries right, is where we should begin. I believe we should consciously seek out the “pattern language” of health care, creating a new “social architecture” that helps us do our work much more effectively and efficiently.
Our work at Concord Hospital

And that leads me, finally, to the work we have been doing during the last year and a half in our program at Concord Hospital. First, let me tell you a little about Concord Hospital. The quality of the hospital and its nursing and physician staff is unusually high, and there is a very strong ethic of wanting to do the right thing for the community. The CEO of the hospital, Mike Green, is very gifted and forward thinking, and so is his leadership team. Mike and others decided several years ago to bring more-sophisticated services to Concord. Patients, at that time, were leaving the community for treatment for complex conditions, such as cardiac care or cancer treatment. He wanted to expand the services that could be offered locally.

He started out by setting a multi-year plan and began by strengthening the cardiac program. A major part of that was the creation of an open-heart surgery unit that was developed through a partnership between Concord Hospital and Dartmouth Medical School. Dartmouth has an extraordinary reputation nationally for quality. The cardiac surgery program came together under the direction of Dr. Steven Plume, who at the time was the president of the Dartmouth-Hitchcock Clinic. Dr. Plume wanted to bring the best of Dartmouth to Concord.

I want to point out that the entire region of northern New England has the best outcomes in cardiac care of any region in the country; the only one that is equal to it is New York state. This was not always the case. About ten years ago, long before the creation of the Concord program, a collaborative quality improvement initiative was begun in northern New England that involved all the programs providing cardiac care in Maine, New Hampshire, Vermont, and northern Massachusetts. That group was called the Northern New England Cardiovascular Disease Study Group.

The doctors, nurses, and administrators in these different programs agreed to meet four times a year to discuss how they were doing in terms of caring for their patients. The teams throughout the area visited one another. They observed the care given in the operating room. They videotaped operations. They exchanged information. They agreed to use a standard database to measure outcomes and to share the information, although the information itself was utilized in a blind fashion. The information was simply being shared with the goal of improving quality across the region. During this time there have been dramatic reductions in deaths and complications from cardiac care. Now a little bit of that reduction has occurred as a national trend, but the region has surpassed that by a significant degree.

With this heritage of Dartmouth and the northern New England region in general, the Concord program was really an outstanding program right from the outset. I mention this because I am going to tell you about how it became even better.

Getting started at Concord Hospital

In the fall of 1999, we initiated a transformation effort in our program. We took a very good program, but one basically operating within a more traditional healthcare framework—with doctors doing their thing, nurses doing theirs, and so forth—and shifted the way it was being run. We initiated instead a much more collaborative care process, and made collaborative rounds the centerpiece.
Collaborative rounds

You may not stop to think about it but there are quite a number of professional disciplines that interact around the care of an open-heart surgery patient. In our program about sixteen different disciplines come together around our patients. Doctors are one discipline. Nurses are another. There are respiratory therapists, physical therapists, social workers, occupational therapists, spiritual care people, and on and on.

This extended team is really quite large, and the challenge of having this many people communicating effectively with each other and with patients and families is quite complex. In the traditional mode of operation, caregivers interact with the patient and each other at various times during the course of the day. Team members communicate in many ways: Some may write a note in the patient’s chart, some may make a telephone call, or page, or talk to other team members when they happen to see each other over the course of the day. Some healthcare providers might talk to the patient or family and say one thing, and others something else, and so forth. Despite good intentions, it’s actually more a variably connected amalgamation of individual efforts rather than real teamwork.

We thought about this, and decided that we wanted to do better. We decided that we could improve how we functioned and communicated if we came together at one time instead of at different times across the course of the day. That proved to be very difficult at first but eventually we were able to get people to adjust their schedules so that we could do that, and we began something that we now call our “collaborative rounds process.” It has five elements: (1) Interdisciplinary, with everyone present at the same time, (2) Patient and family included as part of the care team, (3) Respectful, open environment with flat hierarchy, (4) Consistent pattern of communications and decision making, and (5) Specific attention to identifying “system glitches.”

Advice from others

Once we got people used to meeting together each day, we began to work specifically on the precision and completeness of our information sharing process. We went outside our industry to Jeffrey Brown, an aviation safety expert, and others with expertise in team-based communications and said, “Help us. We have started this collaborative process, but we don’t know quite what we are doing. Could you teach us how we can improve the way we exchange information?” We took a number of new ideas, modified them to fit our needs, and added them to what we were doing. With these insights, and with the entire team working together, we developed a communications protocol that is consistent with the best teachings in cognitive psychology and human factors research, yet is applicable directly to our work caring for patients.

Changes in patient care

We made other changes in the program as well, which at first might seem a little bit paradoxical. For example, we started doing less for our patients. We started monitoring patients less with invasive monitoring lines that are so often used after surgery. We started taking lines and tubes out of the patients sooner. We started getting breathing tubes out really early, as soon as the patient comes out of the operating room. We started really minimizing the number of medicines that we gave people.
Changes in patient care, continued

Broadly speaking, it’s really a philosophical change from the way we grew up in heart care. The old idea was that the heart patients were the sickest patients in the hospital. We’d kind of say that the patients were sick until proven well. Now we think of them differently. We think of them as well until proven sick. We now say, “Fine, you had a little thing done to you, and that’s great. But all your lines and tubes are out. Get out of bed. Let’s walk around. Let’s get you back to what you were doing before.” It’s a very different mindset.

Involving the team in clinical assessments

We began to stress the value of what we call “integrative clinical assessment” of our patients more than our traditional invasive measurement of how they are doing. I might ask the nurse, “What do you think about this patient?” and the nurse might say, “He looks sick to me,” or “He actually looks pretty well, and when I think about it, he looks well because he’s warm and he’s pink and he’s peeing and he’s talking to me.” We used to measure all this with our lines, and with all sorts of other things.

Now we’re asking the nurses and the doctors to put more emphasis on their integrative clinical skills, rather than on the measurements that break assessments down into “the pulmonary artery pressure is this, the central venous pressure is that, the cardiac index is this,” and so forth. We have tried to step back a little bit and see the bigger picture. Not that the details aren’t important. But the context is critically important, too. It is the overall picture that really matters, and that big picture is more than a collection of measurements. We began trying to do all that in this collaborative setting and, absolutely significant, where we have the families and the patients together too. We are trying to build an understanding of how the patient is doing from these multiple perspectives.

Working on the environment for communication

We also tried a number of things to create an environment where people would feel safe and enfranchised enough to give their opinions, even to express concerns or offer suggestions unrelated to their specific area of expertise. I’ll give you an example of what I considered to be a true victory of this process. Just a few months ago a patient was complaining of some nausea, and everybody on the care team had a turn at presenting their view of how the patient was doing. Basically, nobody had picked up on the fact that the patient was complaining of nausea, and that the patient was still on some narcotic pain medication, which actually causes nausea at times. Finally, at the very end of the rounds process, someone brought the problem out into the open. Past me, past everyone else, our spiritual caregiver finally said, “Well, I talked to the patient yesterday, and I think her spirits are doing just great. But, by the way, don’t you think we ought to stop giving her that Lortab because she’s nauseated? Maybe we could put her on some Tylenol instead.” This just thrilled me that our chaplain was willing to step forward and make a suggestion for a medication change.

Let me give you another example of how helpful the collaborative process can be. During rounds, a patient’s wife mentioned that it was very hard for her to stop smoking. She wanted to stop, so that she wouldn’t put her husband at risk. I had six
or seven people on my care team giving her advice. They were talking with her about their experiences with patches, and with this and with that. It is just amazing when you look at a particular problem from all these different viewpoints. It is like a diamond with all its facets! We’re trying to put all the facets together to see a whole picture, to step back far enough from the clinical situation on a regular basis to ensure that we’re not lost in all the details, and develop a shared ability to grasp the bigger picture of it all.

The Collaborative Communications Cycle

We call our communications process the “Collaborative Communications Cycle.” I would like to describe it to you. First, let me set the stage. We are at the bedside of a patient who, a day or so ago, had open heart surgery. The whole care team has come together. Usually it’s about a minimum of eight and a maximum of about twenty people. We just gather around the patient’s bed. We have the family, the patient, and all of the healthcare staff present. All are part of the care team. It’s interdisciplinary. We view the patient and family as essential members of our team.

Achieving excellent communication is really the center point of the whole process. This requires a consistent pattern of communication and decision making. It’s a pattern of information exchange that everybody has now become comfortable with, and it pretty much guarantees that everybody will be involved. We don’t miss very much anymore. We work very hard to make this a respectful, open environment, with as much of a flat hierarchy as is reasonable. Although the surgeon is ultimately in charge of the process, we actually step back and let our nurse practitioner be the one who convenes the cycle and moves it along. I envision myself more as a CEO of a wonderful corporation with outstanding executive vice presidents rather than as a sole proprietor (see Figure 1).
We start the process by developing what we call “the theory of situation,” a term borrowed from aviation safety. At the “theory of situation” stage we sum up just what we believe the situation is, where we think we are with a patient. Somebody proposes a theory of the situation, and then everyone else contributes to confirm or modify that initial suggestion. If we were in an airliner, a crewmember might say, “Well, I think we’re twenty miles outside of Boston and that we can start down now,” and somebody else might say, “I think we’re actually twenty-five miles outside of Boston and there’s a big tower that’s between us and where we want to be.” The captain might respond with, “I’m glad you mentioned that. Let’s just double-check where we are.”

We might ask somebody like Addie, the social worker, or Judy in spiritual care, or Lynn, from respiratory therapy, “Could you tell us how you think this patient is doing?” And so somebody will offer that, and then we ask, “Does everybody agree with that? Does anybody have any other thoughts about it?” Then we’ll take an active period of time to just be quiet and let ideas come out. We even ask questions like, “What are we missing?” or “Does everybody agree?” We’ll ask the family questions. We’ll especially ask the patient, “Do you agree with that? Do you actually feel that way? Is there anything that you’re worried about? Is there anything that we haven’t mentioned here?”

When everybody’s in agreement we move on to the next step, developing a plan of action. In aviation a crewmember might say, “Given that we’re twenty-five miles from Boston and there is a tall tower just ahead, why don’t we stay at the present altitude for three more miles and then safely start down?” In medicine we might state it as, “Given that we are doing pretty well but we have these concerns, maybe we want to change that medicine.” Again, we open the conversation up for discussion, and we hope that somebody like Judy will say, “Maybe we ought to just stop that medicine.” Or maybe a family member will say, for example, “Well, you know, we tried that medicine a year ago, and that didn’t work very well.” We might say, “Great, let’s not use that medicine.” And, so, we work with each other, and with the patient and family, to develop a plan of action that is a better plan than what any one of us might have come up with alone.

Next we clarify roles and responsibilities. Often there isn’t a great need to say a lot about this because much of our work is role-based, but not infrequently there is some degree of crossover, and clarification is very helpful.

The next step we call “identification of limits and alternatives.” We decide together what we expect will happen, what is acceptable and what is not, and what we will do if things don’t happen as we would like. There is much less ambiguity. Together we devise alternate plans that can be put in motion if needed.

Finally, we summarize and double-check what we have decided. We end by summarizing: “O.K., we’re going to do this, this, this and this. Addie’s going to do this and this. We’ll reconvene tomorrow. Everybody agree? O.K., great. Mr. Smith, do you agree? Any concerns that you have? O.K., fine.” Then we go on to the next patient.

The next day when we come back, we begin where we left off. The person who
The Collaborative Communications Cycle, continued

summarized the day before will say, “Mr. Smith, good morning. I’m going to review for you what we planned yesterday. Yesterday you still had your chest tubes in. We were going to take those out. It looks like that has been done. How did that go? We were going to get you up and get you to the shower. Did you get your shower? That’s great.” The talk will go on about a number of concerns. This discussion will form the beginning of a new theory of situation, and then the cycle gets under way, and repeats each day.

Very important, we also interrupt this process and talk about actively catching errors, right on the spot. As problems surface, and of course they do, we use them as a lens through which to look at root causes more deeply within our system. We try to recognize and take note of problems when they occur so we can address them specifically later at a system level. We call these problems “system glitches.” The word “glitch” is very effective for us. It is a very easily understood, non-threatening name that allows people to focus on issues without becoming defensive.

System rounds

The other thing that I want to mention is that we also try to get the same group of people together one afternoon a week for what we call “system rounds.” We call the collaborative morning efforts the “morning rounds,” which are really “patients rounds.” But one day a week we sit down and make our collaborative system itself the patient. We probe it. We think about it. We talk about what we are doing and what we could do differently. A lot of our positive work comes out of these weekly conversations.

Results

Early in our work we developed a set of quality indicators that we wanted to measure and track in our program. The dimensions of quality we follow are clinical outcomes, patient/family satisfaction, and quality of work life.

We measure our clinical outcomes by participating in a shared outcomes database with all other open-heart programs in northern New England. This database includes a statistical risk-prediction model that permits us to compare actual clinical outcomes to those predicted for the region for our particular patient population. The results of this comparison are shown in Figure 2 for consecutive patients since the program began. At the arrow, the changes described in this paper were instituted. A significant and sustained reduction in mortality has been observed.

![Figure 2. Clinical Outcomes.](image-url)
Results, continued

We measure patient/family satisfaction using a nationally standardized patient survey (Press, Ganey, and associates). Traditionally, the happiest patients in the Concord Hospital have been mothers having babies. Now, however, the happiest patients in our hospital, happier than mothers having babies, are the open-heart patients. Our patient satisfaction outcomes have also been recognized nationally as outstanding.

In February 2001, we conducted a quality-of-work-life survey of team members, comparing the “collaborative rounds” process with traditional rounds. We found improvements in all eight categories (see Figure 3).

![Figure 3. Quality-of-Work-Life Survey.](chart)

We are also beginning to receive outside recognition of this work. In the most recent site visit to the Concord Hospital by the Joint Commission on the Accreditation of Healthcare Organizations, the collaborative rounds model received commendation as a national best-practice model.

Conclusion: The concept of relational synergy

It’s unlikely that we will ever have better individual doctors, nurses, or administrators, because they are excellent already. Yet, to meet the needs of patients and society, our healthcare system must become remarkably more effective and efficient.

We have, fundamentally, an individual healthcare system now. People are immersed in old organizational structures and work patterns that do not facilitate their communication and interaction. The Concord experience shows that something more is possible.

The Concord cardiac program is a special environment for taking patient care to new levels, a living laboratory for innovations in patient care, dedicated to finding new ways for practitioners, patients, and families to work together safely, harmoniously, and effectively. It is a prototype of a new model of collaborative practice that produces “relational synergy.” Relational synergy is what happens when parts of a
Conclusion: The concept of relational synergy, continued

system are woven together in new ways, producing resources where there were apparently none before. It is where “the rabbit comes out of the hat.”

I’ll give you a very brief, final example of relational synergy. In my former community of Wichita, Kansas, a group of practitioners decided that we could do a better job of caring for the uninsured in our community. We learned of Project Access, a program being used in Asheville, North Carolina, and we brought it back to our community and implemented it there. In every community in this country, right now, there are doctors who are caring for uninsured people. There are hospitals giving away care to uninsured people. There are all these parts of the picture then, and every part is trying hard, but none of it is woven together effectively.

Project Access brought together all the parts of the healthcare system. The project linked all the functioning subgroups together so that if a patient needed doctor care, or hospital care, or pharmacy care, or whatever else, he or she could get all of that together. The effect has been that over ten million dollars worth of care in the last year and a half has been given to the uninsured in that community, even though healthcare professionals are doing no more than they already were doing.

Just a small amount of organization, superimposed on work already being done, made something out of apparently nothing. Just as in the Concord experience, Project Access took a pattern of isolated parts and related them functionally, and through this made a system that works in a dramatically better fashion. I think that is what we have to be thinking about and looking for in health care.

Author information

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Dr. Uhlig received his M.D. degree from the University of Kansas School of Medicine, where he received the Thomas G. Orr award as outstanding student in surgery. He completed his residency training in general surgery and general thoracic surgery at the Massachusetts General Hospital and in cardiothoracic surgery at Indiana University. He was also a research fellow in cardiovascular physiology at the Cardiovascular Research Institute at the University of California, San Francisco. Dr. Uhlig maintains an academic affiliation with the University of Kansas School of Medicine–Wichita as adjunct associate clinical professor of preventive medicine.

For the academic year 1996–1997 Dr. Uhlig was the Thoracic Surgery Foundation Alley Sheridan Scholar-in-Residence at Harvard University’s John F. Kennedy School of Government, where he studied U.S. health care policy. Dr. Uhlig received the degree of Master in Public Administration from Harvard in June 1997. He is presently co-chair of the national health policy committee of the Society of Thoracic Surgeons, and was the lead author of the Society’s recommendations for Medicare reform presented before the National Bipartisan Committee on the Future of Medicare.

Dr. Uhlig’s professional interests concern transformational change in health care, information transfer in healthcare environments, and collaborative leadership. Dr. Uhlig’s present academic work concerns the establishment and study of collaborative environments for innovation and transformational change in healthcare institutions. Prior to joining the Dartmouth faculty, Dr. Uhlig practiced cardiothoracic surgery in Wichita, Kansas, and was the founding president of the Central Plains Regional Health Care Foundation. In February 2000 Dr. Uhlig and Patrick Hanrahan of Wichita, Kansas, received the Mary M. Gates award of the United Way of America for their work with Project Access, a community-based program of care for the uninsured.

Editorial assistance for this article was provided by Erik L. Smith and Laurence Smith.
Untangling the Web: Bringing Information Therapy to the New Healthcare Consumer

Molly Mettler, Senior Vice President, Healthwise, Incorporated, Boise, Idaho

Healthwise, Incorporated, is a not-for-profit consumer health information organization founded in 1975, with help from a Kellogg Foundation grant. Healthwise’s mission is to help people make better health decisions. Healthwise believes that to have a better healthcare system, the role of the patient must first be re-invented. Our vision is to build a better patient by creating communities of the best informed, most empowered healthcare consumers in the world.

We’ve made great strides in twenty-six years. The organization struggled in the beginning because the consumer’s role in health care had not historically received much attention. Self-care for patients had yet to become a prominent healthcare issue. With the advent of managed care, however, the reimbursement model changed and healthcare organizations became very interested in what consumers could do for themselves. As it turns out, consumers can do quite a lot.

The way people behave as patients has changed. The twenty-first century patient is a “new consumer,” with heightened expectations and demands. And, there is a tension between what patients want and what they are getting from health care. When patients visit a doctor to have medication prescribed or to consult about possible surgery, they come as consumers and they have certain wants that need to be met. Patients are increasingly looking for multiple things: information, relief from symptoms, positive outcomes, and empathy. The new consumer insists on choice, control, and customer service. If they don’t get it, they’re perfectly willing to shop around for a doctor, group practice, or health plan that meets their needs. Because of this new attitude, providers must reevaluate healthcare consumers’ needs.

The roles doctors play and doctors’ needs must also be considered if the healthcare process is to work smoothly. Doctors are challenged in this new era of the empowered and internet-active healthcare consumer and the emergence of a much more diverse and complicated healthcare system. Sure, doctors want to be paid, but beyond monetary concerns, they want to lead their patients to good health. They want to be able to use their skills, grow professionally, and feel like they are contributing.

When the requirements of both consumers and doctors are taken into consideration, then a system can be developed to effectively bridge what is now a significant gap between consumers’ needs and the services health care provides.
The opportunity we see is to build systems that can bridge this gap. This gap between what consumers want and what they are getting can be bridged, we believe, through ensuring that patients and providers work in partnership, especially through the effective use of information.

Four simultaneous challenges are impacting the delivery of health care and the patient experience of that care. These challenges are:

1. The rise of the new consumer
2. The rise of evidence-based medicine
3. The rise of the internet
4. The call for quality improvement and patient safety.

These four challenges are shaping how health care will be delivered in the future.

The days of the passive patient following “doctor’s orders” are over. Studies consistently show that North American healthcare consumers want information; they want choice in their health plan, in their physician, and in their treatment. They want to assume control. They don’t want to feel like cookie-cutter patients; they want highly personalized health care.¹

In a study published in the December 1999 issue of the *Journal of the American Medical Association*, only 9% of decisions were rated as informed decisions.² This means that millions of Americans, as consumers and patients, want something from a smaller group of healthcare professionals who are not equipped to provide it.

It is astounding how differently medicine is practiced throughout North America; the mere factor of location can influence a patient’s treatment. For example, a patient with lower back pain in Boston is likely to receive different treatment for this problem than a patient in Seattle. As illustrated by the *Dartmouth Atlas*,³ the treatment prescribed for the same health problems varies all across North America. What the *Dartmouth Atlas* illustrates is that no one is certain of the right level of care. The challenge this presents is to ensure that health care is delivered upon the evidence and to make the scientific evidence available so that both physicians and patients can work together to come up with the right treatment plan for each individual patient.

The third challenge is the rise of public information through the growth and expansion of the internet.

A large population of new consumers is entering the readily available healthcare information marketplace; they want to be knowledgeable about their conditions and options for best treatment and positive outcomes. It used to be that a patient would only be able to talk with a doctor about the best way to address the patient’s problem. With the rise of the internet this same patient can now go on-line and tap into a wide array of information about the problem.
The rise of the internet, continued

This presents a great opportunity for the consumer to make an informed decision. However, the patient will also have access to a lot of useless and potentially misleading information. Millions of internet users go looking for health information. The rise of technology has given the consumer the opportunity to gain more healthcare-related knowledge, but it does not yet offer effective ways for the consumer to evaluate all this available information. The challenge is knowing what is good quality information and finding a way to communicate it beneficially.

The call for quality and patient safety

A recent Institute of Medicine report found that an unprecedented number of people have died as a result of medical mistakes. David Lawrence, president and CEO of Kaiser Permanente, one of the country’s largest HMOs, after looking at his own system and others, said, “Our chassis is broken.” The chassis of our healthcare system is indeed broken, and it will not be easy to fix. The chassis does not simply need a part replaced; it needs a new design.

Dr. Donald Berwick, president and CEO of the Institute for Healthcare Improvement and a powerful advocate for quality health care, has indicated that the challenges facing the healthcare system are not marginal and the solutions are not incremental. Indeed, the challenge before us is a daunting one. And yet, we will never have a better healthcare system without first building a better patient.

Creating Information Therapy

Information is care. When good information is given to patients, patients become partners in their own care. “Good” information is characterized by five factors: (1) The information must be organized in a way that helps patients make good decisions; (2) It must be evidence-based; (3) It must be unbiased; (4) It must be referenced; and (5) It must be up-to-date. Good information rightly belongs in the hands of the patient. Good information can be prescribed, just like a medicine, a test, or a treatment, by means of “Information Therapy.”

Information Therapy is the delivery of specific information to a specific patient to better manage a specific health problem. Think in terms of a pill being prescribed—when a patient has a problem that can be addressed by medication, the physician seeks to find the best medication for that particular patient and for that particular problem. In choosing the right medication, the doctor considers dosage, frequency, medium (pill or ointment), and many other factors.

Just like a pill, the delivery of Information Therapy also needs to be tailored to best fit the patient. The doctor must consider what is known about the patient and identify delivery methods that the patient will best respond to, be it one-on-one conversation, reading material, interaction with others, or personal research. The right dosage (or amount of information) must also be considered.

As with side effects to medication, the misuse of information must also be considered. The information a patient accesses must be carefully monitored. There are more than 25,000 web sites on the internet today that call themselves medical information or healthcare sites. Not all of these have been evaluated, but groups such as Hi-Ethics (Health Internet Ethics) are working to certify medical information web pages.
The Healthwise Knowledgebase

Because the purpose of Healthwise has always been to get information to people to help them make better health decisions, we focused on what consumers said they wanted to know and we have embraced the qualifiers for good information listed above. To ensure that consumers have access to decision-focused, unbiased, referenced, up-to-date, and evidence-based information, Healthwise has been building an electronic consumer health information database called the Healthwise Knowledgebase. It contains information on:

- 1900 health topics,
- 600 medical tests and procedures,
- 500 self-help groups,
- 250 CancerNet topics,
- Medications (through an electronic drug reference), and
- 900 complementary medicine topics.

The Healthwise Knowledgebase is now accessible, under various names and in various configurations, to about twenty million families worldwide. The Knowledgebase represents our efforts to put quality information into the hands of the consumer/patient at the time of decision making. For a tour of the limited topics demonstration of the knowledgebase, please visit www.healthwise.org/kbase.

A study project: build a better patient

A model program, created and tested in Idaho and replicated across North America, is testing a simple idea: to build a better healthcare system, first build a better patient. Why “build a better patient?” Because educating and supporting consumers to take an active and informed role in their own care will yield the solutions that our current crisis clamors for. Historically, consumers’ involvement in their own healthcare has often been overlooked by our more “formal” healthcare delivery system. However, let’s look at where health care in this country is really practiced. Eight out of ten health problems that people experience are handled by themselves, without the intervention of a healthcare professional. What people do for themselves and their families, in their own homes, makes up the bulk of a hidden healthcare system, and yet this activity was largely ignored and unsupported until the advent of mass distribution of consumer self-care books, and nurse advice lines, to capitated populations by managed health care.

Research conducted over the past twenty-five years on medical self-care and shared decision making has shown, time and again, that when patients are informed and involved in their own care, three things happen: outcomes are improved, cost goes down and satisfaction goes up. In looking at quality improvement processes for health care, too much attention has been spent on limitations and restrictions on what doctors could or could not do—supply management. The attention needs to center on the consumers themselves—the ultimate demand creator for health care. If we truly want a better system we need to start where that system does—with the patient.

Healthwise set up a study project in Idaho with the goal of creating the smartest healthcare consumers in the world. With funds raised by a grant from the Robert Wood Johnson Foundation, local hospitals, and self-insured employer
A study project: build a better patient, continued

groups, Healthwise set out to create a community of informed and empowered consumers in a four-county area in southwestern Idaho. The study area covered about 10,000 square miles and included a diverse population, ranging from urban residents in Boise to rural residents in the surrounding mountain communities, with varying levels of education, familiarity with English, and access to technology.

In April 1996, The Healthwise Handbook, a 380-page guide covering 190 healthcare problems, was delivered to every residential mailbox in the four-county area. It gave information about symptoms, what to do to prevent or deal with problems at home, and what signs and symptoms indicate that a visit to the doctor is required.

First published in 1975 for sixteen mothers in a Boise community education group, there are now over eighteen million copies of this book in distribution worldwide. (For this project in Idaho, it cost $5.00 per book to customize, print, and deliver for 126,000 families. A Spanish language version was also available.)

Research has shown that when people get a book—not just The Healthwise Handbook, but any self-care book—and if they use it, they will save on doctor visits and emergency room visits. In addition to delivering the handbook, Healthwise invested resources in educating the people in the community, teaching them self-care skills. They reached 13,000 people in the four-county area—holding sessions in church basements, grange halls, high schools, and anywhere people would gather.

In addition to educating the public, Healthwise also worked with doctors, nurse practitioners, physician’s assistants, and medical office staff. These practitioners received training in different methods for increasing their patients’ self-care and medical decision-making skills.

Resources were made available electronically to everyone in the study area through a restricted-access web site whose central feature was consumer access to the Healthwise Knowledgebase. For residents without personal computers, computer kiosks were set up in every public library and in many primary care physicians’ offices as well as at large self-insured employers’ work sites. In addition to web access and printers, these “Healthwise Information Stations” provided a variety of consumer health books in English and Spanish.

Healthwise went to great lengths to ensure that everyone had the opportunity to become an informed healthcare consumer. In addition to the web site and kiosks, there was the Healthwise Line, a nurse advice line. Nurses on this line gave general information, following the protocols of the Healthwise Knowledgebase, but did not give diagnoses.

The handbooks were sent out in April 1996. Six months later the Healthwise Line and the web site were activated. Almost immediately after the books went out, letters started coming in with stories about how the book had helped, and even saved lives.

It is important to emphasize that The Healthwise Handbook and the project are not structured to keep people away from medical care. Self-care teaches people when they need to go to the doctor. In some cases in Idaho, it got people to the hospital early enough to prevent further complications and save lives.
Outcomes

The Robert Wood Johnson Foundation awarded Oregon Health Sciences University (OHSU) a separate grant to evaluate what happened in Idaho against two control communities, one in Oregon and one in Montana. The university study found a reduction in visits to doctors in Idaho for conditions amenable to self-care, such as upper respiratory problems and minor muscular aches and pains.8

Blue Cross, looking at its own data, measured an 18% reduction in ER visits in the study area compared against two other Blue Cross regions in Idaho.9

Healthwise also reviewed how the handbook was received and utilized. Three years after the book was first distributed, OHSU researchers surveyed a representative sample of the households in the study area. Response to the handbook was positive. Nine out of ten households knew that the book had been mailed to them. Seven out of ten used the book at least once. In fact, the average use of the book was seven times a year. Four out of ten households reported saving at least one medical visit and two out of ten reported saving at least one ER visit.10

Physician response

From the consumer’s point of view, through the Idaho study project, quality went up, desirable outcomes increased, and cost went down. Healthwise had succeeded in getting information to the consumer but was still uncertain how physicians would respond to their new empowered patients.

In times past, physicians were reluctant to make self-care and other types of information available to their patients because of concerns that patients would misuse the information and that there might be undesirable consequences. The results from physician reaction to the Healthwise Communities Project activities suggest that a significant change in physician attitudes has occurred over the years. OHSU investigated the use of the handbook and the kiosks in the physicians’ offices. Ninety-one percent of physicians polled wanted the handbook in their offices for patient use. (However, only 75% of physicians reported referring their patients to the handbook regularly.)

Additionally, the Healthwise Information Station kiosks that were set up in doctors’ offices were there only on a temporary six-month basis before being routed to another clinic. (Patients used the kiosks to find out information about the ailments they were seeing the doctor about, and also to research information about other health issues not related to the visit, such as sexual dysfunction and depression.) After the six-month trial period was over, all of the participating clinics said that they wanted to keep the kiosks in their offices. Time and first-hand experience with informed patients has changed many physicians’ philosophy.

What’s next?

By the end of the grant-funded period, Healthwise had met the study project’s goals. The project did create whole communities in Idaho of smart, informed, and empowered patients, and physicians did endorse the program. Following this success at improving the quality of health care in Idaho, the project has been replicated in communities in Minnesota, South Carolina, Texas, and British Columbia.
The Idaho-based Healthwise Communities Project was yet another step in the direction of building a better patient. The realization of true Information Therapy—being able to deliver targeted prescription information to a specific patient—is the next leap forward. As the following matrix shows, there are a number of important goals and opportunities for Information Therapy, and three basic tactics for accessing it.

![Figure 1. Information Therapy Matrix.](attachment:image)

<table>
<thead>
<tr>
<th>Goals</th>
<th>Tactics</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Improve Quality</td>
<td>• Patient Initiated</td>
<td>• Prevention</td>
</tr>
<tr>
<td>• Reduce Costs</td>
<td>• Doctor Initiated</td>
<td>• Self-Care</td>
</tr>
<tr>
<td>• Increase Satisfaction</td>
<td>• System Initiated</td>
<td>• Self-Triage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Visit Preparation</td>
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<td></td>
<td></td>
<td>• Chronic Disease Self-Management</td>
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<td></td>
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<td>• Shared Decision Making</td>
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<td>• End-of-Life Care</td>
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<td></td>
<td>• Visit Preparation</td>
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<td>• End-of-Life Care</td>
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</table>

Innovative Information Therapy initiatives are looking at all the places where people touch the formal healthcare system, whether for self-care, prevention-oriented doctor visits, self-management of chronic illness, shared decision making for major surgery, or even end-of-life care. The goal is that every time a patient visits a healthcare practitioner and every time a patient addresses her or his own problem at home, the patient emerges from that encounter better informed and more empowered.

Information is essential to bridging the gap between what the consumer wants and what the consumer is getting from the healthcare system. Information Therapy allows doctors and patients to work together to find the best treatment. The mutual benefits of this are easily seen on the following chart:

![Figure 2. Summary of Benefits from Information Therapy.](attachment:image)

<table>
<thead>
<tr>
<th>Patient Benefits</th>
<th>Physician Benefits</th>
<th>System Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Better Decisions</td>
<td>• Saved Time</td>
<td>• Improved Quality</td>
</tr>
<tr>
<td>• Involvement</td>
<td>• Better Patient Compliance and Outcomes</td>
<td>• Increased Capacity (Market Share)</td>
</tr>
<tr>
<td>• Self-Management Skills</td>
<td>• Practice Enhancement</td>
<td>• Reduced Costs (Margins)</td>
</tr>
<tr>
<td>• &quot;Customer Service&quot;</td>
<td>• Increased Patient Satisfaction</td>
<td>• Increased Member Satisfaction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• A Focus on Mission</td>
</tr>
</tbody>
</table>

If the patient is going to be the primary provider of care, it is imperative that the patient have as much information as possible. It is time to put decision making in the hands of the people who are most affected by it. Reinvent the patient, and by doing that, reinvent the healthcare system.
References


10. Final Grant Report, Healthwise Evaluation Project. RWJF Grant ID#027929, May 1, 1996, to November 30, 1999. Merywn R. Greenlick, Chair and Professor, Department of Public Health and Preventive Medicine, Oregon Health Sciences Univ.

Author information

Molly Mettler, Senior Vice President, Healthwise, Incorporated, has been with Healthwise since 1985. A nonprofit organization, Healthwise is best known for the Healthwise Handbook, now in its fourteenth edition, and the Healthwise Knowledgebase software. These products and the company’s consumer education programs have won numerous national awards, including the American Health Book Award and the “Secretary’s Award of Excellence,” for a Distinguished Community Health Promotion Program, from the U.S. Department of Health and Human Services.

In 1995, with funds from the Robert Wood Johnson Foundation, Mettler and her colleagues launched the Healthwise Communities Project. The vision: to make the 278,000 residents of four southwestern Idaho counties the most empowered, best informed medical consumers in the world. The project won the 1996 Spirit of Innovation Award and is being replicated in other communities around the world.

Mettler has authored scores of books and articles on medical self-care and health promotion, including Healthwise® for Life, now in its third edition with nearly two million copies in distribution.

Particularly passionate about health care for people age 50 and over, Mettler is Chairman for the National Council on the Aging (NCOA). She was the founding chair for the NCOA’s Health Promotion Institute in 1990. That group honored her contributions by creating the “Molly Mettler Award” for leadership in health promotion.

Mettler has consulted for the World Health Organization, the American Association of Retired Persons, the Robert Wood Johnson Foundation, and Fortune 500 companies. She serves on the advisory boards of many organizations and is a Health Forum Fellow.

Editorial assistance for this article was provided by James Alphen, Victoria Fantozzi, and Laurence Smith.
Building Quality into Corporate Goals: Selling the Issue to Top Management

If you are constantly looking back, chances are pretty good you'll fall into a hole ahead. — Anonymous

The issue of quality as an overarching corporate goal has been handled in any number of ways over the years. Competition has forced many organizations to accept the need for quality in the manufacture of products and delivery of services. However, while most firms have talked about quality goals and have instituted them in the operational aspects of their firms, many companies still have not incorporated quality goals into the strategic goals of their organizations.

Clearly, handling operational measures such as defects-per-million is far easier to deal with than difficult, hard-to-measure strategic issues, such as overall customer satisfaction. Yet customer satisfaction is the supreme goal of quality management. Without it, there is little reason to expect long-term success for the company. In the end, no matter how good a firm is at pursuing financial goals, it will not flourish unless its customers also continue to be satisfied.

One of the major problems of quality proponents has been the selling of quality as a macro-issue to management. As a rule, top management has been far more interested in the financial performance of the firm, as measured by profits and shareholder wealth created, than in the satisfaction of its customers, a far more nebulous concept. How then can quality proponents make the case for inclusion of customer satisfaction as a strategic goal of the company? Quality professionals must understand the reasoning behind, and the need for, the various goals that drive strategic decision-making in most companies. This paper (1) explains the advantages and disadvantages of the most widely adopted guiding goals used by firms, (2) explores the relationships of the various goals, and (3) discusses the management implications of adopting each of these goals. The arguments presented here should give quality proponents a better understanding of top management decisions and provide ammunition for pursuing the use of customer satisfaction as a strategic goal of the organization.

Over the years, business managers have adopted one of three predominant goals to steer the firm: maximization of profits, maximization of stockholder wealth, or customer satisfaction. Revenue growth is also a key goal many managers pursue. We believe that it is closely associated with profit maximization and, as such, is to be represented in this paper by the profit maximization goal.
Comparing paradigms that guide business operations, continued

Debate continues on whether any one of these goals is most appropriate for steering a firm through the turmoil of business today to achieve both profitability and long-term growth and stability. These three prevalent goals are compared and contrasted here, and a prescription for achieving both profitability and longevity is proposed.

The authors propose that the goal of customer satisfaction is causal to the others and should be viewed as the gateway to the other two resulting goals because (1) it focuses company personnel on upstream indicators that allow them to better manage the present and the long-run future so that all parties clearly benefit, (2) it directly motivates company personnel to deliver on promises to satisfy customers’ needs first, and (3) as a direct consequence of emphasizing customers’ needs first, the company meets the needs of stockholders for profits and equity values.

An upstream business event precedes downstream events and has an impact on them. In the river analogy, something that happens upstream, such as adding impurities, will eventually flow downstream and appear there, affecting downstream events, like drawing water from the river. Something that happens downstream does not flow upstream in the normal course of events, so it will not affect upstream events.

In business organizations, certain processes precede other processes in a natural sequence of events. For example, the procurement process must occur before raw materials can be received and converted into work-in-process and finished goods in the production process. Once produced, finished goods can be stored preceding sales and delivery. The processes and events that must occur early in the natural sequence of events are known as upstream processes and events. Upstream processes and events have a direct impact on downstream events. However, downstream processes and events do not have a direct influence on upstream processes and events. Meeting or exceeding customer needs is an upstream process that has a direct effect on the processes of generating profits and wealth maximization. Generating profits and increasing stock prices do not directly lead to greater customer satisfaction.

The purpose of this paper is to encourage managers to consider the impact of goal selection on the future of the organization through bringing together and summarizing the results of diverse thoughts and studies.

Profit maximization

For many years, business schools have taught that the primary goal of business organizations should be the maximization of profits (Ruffin and Gregory 1997). Profits are certainly important to the business firm and necessary to stay in business. Unfortunately, profit is generally measured by the current financial statements and is, therefore, intrinsically short run and based on past performance. Using this measure, firms’ decisions must withstand the constant scrutiny of quarterly profit reports from individual business units and the corporate parent organization.

Many firms, driven by the need for increasing profits, have succeeded in optimizing financial performance, only to find their customer satisfaction reaching all-time lows. The “big three” automobile makers were riding high on profits before the Japanese introduced cars into the U.S. market that better satisfied customers.
Profit maximization, continued

The problems that inevitably follow such negative changes in customer satisfaction begin to chip away at a firm’s hard-won improvement in financial performance, leading to cuts in employees and services that create a downward spiral for the firm.

Maximizing shareholder wealth

As the limitations of profit maximization as the overriding goal of business became apparent, many business schools changed their focus, teaching that the primary goal of business is the maximization of shareholder wealth (Dobson 1999). One concept, the Efficient Market Hypothesis, poses that market prices of shares of stock are the appropriate measure of wealth and represent all the information that is known about the securities by the many well-informed and prudent investors in that active market. The measure of shareholder value created is the present value of the future cash flows that a strategy generates (Cleland and Bruno 1997). This goal is thought to bring a long-term perspective to the profit goal.

In practice, however, stock prices are affected by numerous short-term variables. Many investors use a multiple of reported earnings per share to determine an appropriate market price for a share of stock, the price-earnings ratio, making stock price a direct consequence of short-run profits. Many others react to quarterly earnings per share. As a consequence, this goal becomes a variation on the company profit goal. Moreover, day-to-day responses to psychological variables influencing the stock market cause stock prices to vary even farther from the present value of future cash flows. Shareholders are evaluating and re-evaluating stock holdings constantly, using rapid changes in stock price as the most important measure of value. Monitoring and responding to the roller-coaster ride of recent stock price fluctuations has left many companies with very short-term—and short-sighted—stock price performance goals guiding decision-making at all levels.

Xerox continued to concentrate on high-end copiers in the 1970s while the Japanese attacked the low end of the market. The higher end offered better profit margins and better returns for stockholders in the short run. However, customers were attracted to perceived better value at the low end of the spectrum. By 1980, Xerox experienced low rates of return on assets and was in serious financial trouble.

Weaknesses of these approaches

So what’s wrong with running a business for profit or shareholder value? Although each has its weaknesses, as stated above, these are valid and important goals for a business organization. The most serious problem begins when either profit or shareholder value is used as the critical leading goal or metric of success, overshadowing the key upstream goal of customer satisfaction. Profit is a downstream or confirming measure; it indicates only how successful preceding actions have been—and a wide combination of actions at that.

For many of those who advocate the primacy of the profitability goal, success has been defined as revealing current profitability in financial reports (which reflect the immediate past) and enjoying rising stock prices. Because managers may believe they are charged to maximize the current financial showing, they usually pay more...
attention to their current period results so that raises and perks will increase for them. In many cases, their long-term perspective has been subverted. Nevertheless, if managers in many U.S. companies do not closely monitor short-term profits, they are placing themselves at risk of losing bonuses, raises, perks, and possibly their jobs.

Preoccupation with the current financial performance generally distracts managers from focusing much, if any, of their attention on building a better long-term future for their stakeholders. Some improvements require long lead times before they can be accomplished. Failure to focus on the long run prevents building an infrastructure for accomplishments that require extended lead times. With such failure, timely opportunities for these improvements will be lost. In the meantime, some competitors may be astute enough to build toward these types of long-term improvements. These competitors will eventually entice customers away. Without a sufficient number of customers, there is no business. Cleland and Bruno (1997) advise us that “short-term, financially driven fixes that are not coupled with customer-value fixes are destined to fail.”

Using reported profit as the only critical measure of business success and predictor of longevity is like driving a car while looking in the rear-view mirror. People who manage for financial statement profit alone are looking only at the results of what has already happened. Better metrics to guide driving the business vehicle would allow us to see what is currently happening—like using our dashboard gauges, monitoring the future, and looking forward through the windshield.

Beginning in the 1980s, an increasing number of managers started to consider measures of customer satisfaction. A new paradigm began evolving where the goal of customer satisfaction began to be treated as at least equal to profits and/or stock prices in guiding management's actions and decisions. But does this paradigm of using customer satisfaction as the upstream business goal offer significant advantages to the organization? The rest of this article explores that question, using current studies in the field of management and examples from the workplace to illustrate its findings.

The new paradigm places customer satisfaction as the gateway goal among a set of balanced and worthy goals for a business enterprise. The Cause-Effect Model for a business organization in Figure 1, shown on the next page, presents this goal as the upstream determinant or independent variable of success in bringing about the resulting downstream goals or dependent variables. The Cause-Effect Model hypothesizes that longevity is the ultimate goal of any business organization. Such a goal depends upon profit, which provides returns for stockholders. Profit, in turn, is hypothesized to be a direct effect of repeat sales, assuming that sales are made at a price that is above costs. Repeat sales are a sign of customer loyalty.

However, a question that business organizations have been finding increasingly difficult to answer is “What causes customer loyalty?” We know that customer satisfaction is necessary but not sufficient. Satisfied customers, at least by known
Customer loyalty, continued

Customer loyalty grows from economic exchange partnerships, where both partners gain perceived value from the exchanges they make. The customer perceives that the product/service received is of equal or greater value than the price paid. The company perceives that the payment received is greater than its cost to produce sales. This is a win-win partnership. Value is the trade-off between benefits and costs, offering a competitive advantage to the low-cost producer that can offer lower prices to its customers.

Whether customer satisfaction or customer value is the direct precursor of customer loyalty, the required metric has to do with the customer. It requires focusing on customers, on their perceptions, on meeting their needs and wants. Cleland and Bruno (1997) tell us to put customer value before stockholder value in the following observation: “An enterprise gives itself the best chance to achieve its goals of creating value for both customers and stockholders if it focuses on customers first and shareholders second—not the other way around. Customer value opens the opportunity for shareholder value. It is amazing how many enterprises believe they can serve shareholders best by putting shareholder value first.”

Many successful businesspeople echo these remarks. One CEO of a successful restaurant chain explains his philosophy this way: “Don’t gear your business to the competition; gear your business to the customer. Typically lots of people gear their businesses based on what the competition is doing. We prefer to give the customers what they want” (Joyner 1995). It should be added, however, that while this business founder focuses on the customer, placing worries about competitors far below customers in his hierarchy of concerns, he also closely monitors his competitors on both a local and a national level. Monitoring your competition is one way to identify customer needs, but should not be used as the exclusive means of doing so, or your organization always will be playing catch-up. Gearing business to the customer also means making sure that competitors are not doing a better job of providing customer satisfaction than you are. In truth, providing customer satisfaction is a never-ending journey, not an end result. To be successful in this journey, the smart manager must develop ways to measure progress all along the way.
Dashboard measures

To run a business successfully, metrics are needed that provide more actionable upstream information to management. The closer the measurement to the causal factors of business activities, the better the metric. The best metrics not only provide almost immediate feedback, but also can be directly related to management actions in a cause-effect manner.

Managers need measures to indicate how they are performing at the present time and to help predict their future success. Just as our automobiles provide us with a dashboard (Brown 1996) of a few key measures that we can use to assess current performance and predict continued success at driving the vehicle, managers need to drive business organizations with a set of metrics that will help focus management’s eyes on what is currently happening or is going to happen, not just on what has already gone by and can’t be changed. Management needs measures that will help predict and control future success. Management needs a “dashboard” to indicate current performance in satisfying customers and to build an infrastructure for continuing to satisfy customers in the future. Hoshin planning is one approach to selecting current goals and “dashboard” metrics based on causal relationships.

A recent conversation with the manager of a large food service company that provides meal services for colleges and universities identified one way to effectively create a “dashboard” measure for judging customer satisfaction over time. The manager stated, “…about every two years we come back and ask our existing customers what they think of each food item. If the item rates under 8 (out of a possible rank of 10), we come back and try to reformulate it” (Joyner 1995).

Food service is an area where a change in customer preference can make or break an establishment. One restaurateur spoke of the need to be acutely aware of customer preferences in creating customer satisfaction. By assessing customer preferences at each location in his restaurant chain, he was able to ascertain that, while very hot sauces were quite popular in the inner city (where working professionals were the primary customers), milder sauces were preferred in the suburban locations of the same city (where the customer base consisted mainly of families). This restaurateur became aware of this difference in preferences by reading the comment cards that he places on each table in his restaurants every night. Waiters are trained to prompt each customer to fill out a comment card. They are then collected systematically, and all are read on a daily basis. The information gathered from these cards identifies changes in customer preferences and needs over time that may be used to further increase customer satisfaction and loyalty.

Problems with a singular focus on financial results

Concentrating first on creating profit and stockholder wealth places serving all other stakeholders, including customers, in a secondary position. Earning a profit and providing value for stockholders do not guarantee that the business organization will survive in the long run. There are many examples to the contrary, as shown so eloquently by Pascale in his research on exemplary firms (1990). He followed 43 companies, identified as excellent companies by Peters and Waterman in their book.
Problems with a singular focus on financial results, continued

In *Search of Excellence* (1982). These companies had been judged as excellent based on performance on six financial yardsticks. Pascale found that two-thirds of the companies that were identified by Peters and Waterman as excellent were no longer leaders five years later. The financial measures used by Peters and Waterman had not served well as predictors of excellence in performance over time or of longevity in the marketplace.

Another outcome of American businesses’ continuing concentration on short-term profits can be seen in the trends in customer satisfaction, as measured by the American Customer Satisfaction Index (American Society for Quality 2000). The overall index declined consistently from its first measurement of 74.5 in October 1994 to an index of 70.7 in 1997, with a slight recovery in the following three years to 72.5 in 2000. The greatest stability in the index has been for the durables manufacturing sector, where customer orientation and quality management have been in practice the longest.

The earlier approaches, based primarily on financial measures, place managers in a mindset that lends itself to divided loyalties. Social contracts and commitments to provide the customer the promise of satisfaction sometimes are displaced by the belief that stockholders must win even if the customer loses. As a result of the displacement, delivery of value to the customer often suffers and the firm doesn’t create the best value for the customer.

A most interesting business experience was observed in the 1970s when management of the Schlitz Brewing Company became dissatisfied with the financial results that the firm was experiencing. At that time, Schlitz was one of the most popular beers in the nation. To improve profits, management chose to reduce costs by cutting down on the quality of the ingredients and the processing of their product. In the short run, the financial results were spectacular. However, customers quickly perceived changes in the taste of the product, and these previously loyal customers abandoned it in a dramatic fashion. By failing to serve the customer first, management also failed to serve their stockholders. By 1980, Schlitz had dropped from second to seventh in the market. In 1982, rights to the brand were sold to another company.

Better management

The customer satisfaction approach leads to better management. In the long run, profits and wealth will become the downstream results of effective business activity, continuation of which depends upon successfully pleasing the source of future demand, the customer. If meeting or exceeding present and future customer expectations is effectively accomplished in a well-managed business, profits and stockholder wealth will follow. Such a perspective results in a win-win situation for customers, owners, and managers.

This emerging paradigm, illustrated in Figure 2 on the next page, states that management should not only focus on the customer, but also understand that meeting customer needs and wants first will yield profit maximization and stockholder wealth maximization. In management meetings, customer satisfaction
Better management, continued

should be accorded the highest priority. If profits are good but customer satisfaction is poor, profits will decline down the road. If profits are poor but customer satisfaction is good, profits will rise down the road. The bottom line must not be ignored; it should be recognized as a downstream/dependent measure that confirms that the company is accomplishing its chosen set of goals. Even sales and market share are downstream/dependent measures of customer satisfaction. Management’s leading measures are the measures of customer satisfaction and the actions necessary to ensure it.

These required actions lead to other key measures for the management dashboard: indications of how well the firm is functioning toward satisfying its customers, as well as measures of product and service quality and productivity. Are company personnel following procedures established to ensure customer satisfaction? These are measures that alert us in time to take action before we have dissatisfied customers. Such measures help management predict and manage the company’s future, rather than focusing management’s eyes on the past.

Some firms have begun to focus more on the customer by turning the organization chart on its head. Holder Construction Company, located in Atlanta, Georgia, displays and uses an inverted organization chart to emphasize to employees throughout the organization that they are there to support the construction sites where the actual product of the company is produced and where the end user or customer is located (Joyner 1995). The inverted organization chart represents the company’s attitude that customer satisfaction must be achieved first, and whatever else the company does must follow from that beginning. The company headquarters, with its executive and functional areas, exists to support customer satisfaction in the field. It is a novel approach, but one that clearly demonstrates that the company is focused on the customer.

The advantages

Providing superior quality, as perceived by the customer, better predicts longevity. The Profit Impact of Marketing Strategy (PIMS) study provides clear evidence that superior quality (as perceived by customers) leads to better financial results: higher prices, greater cash flow, and greater return on investment (Gale 1994). The PIMS study used data collected over at least a four-year period for each organization included in the study,
showing that superior quality leads to sustained financial performance.

Satisfying customers offers us a win-win outcome. We don’t have to make a choice between customers and the bottom line (profits and stock prices). Satisfying customers through high-quality processes, products, and services can be expected to result in a good bottom line in the future.

Stephen Covey (1990) states that win-win thinking comes from an abundance mentality. The customer and the employee don’t have to lose in order for company profits and shareholder wealth to occur and for the stockholder to win. Instead, by giving customers what they want, the financial pie grows bigger, everyone wins, and everyone gets what they want.

One success story that clearly illustrates the value of meeting or exceeding customer expectations is that of The Home Depot. The founder of the company, Bernard Marcus, has frequently stated that even today, the customer is still The Home Depot’s best marketing tool. He says that the company has always spent most of its marketing thrust on the customer—pleasing the customer, responding to the customer, giving customers what they want, when they want it, the quality that they want, and the price they want (Joyner, 1995).

Further objective evidence of the correlation of high shareholder wealth with high quality can be observed by the stock market performance of the Malcolm Baldrige National Quality Award winners. This set of companies outperformed the S&P 500 by a magnitude of 4.8:1 for 1999 (http://www.nist.gov/public_affairs/releases/g00-26.htm 9/6/00 2:49 PM). Figure 3 summarizes the advantages and disadvantages of adopting a specific, singular goal for the firm.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit Maximization</td>
<td>It is an aggregate financial performance measure of success. Profit is necessary for a company to survive and continue as a healthy business.</td>
<td>Profit is formally measured only after the fact, and does not reflect long-run factors. Pascale (1990) showed a loss of financial leadership in six years. ASQ (2000) showed a decrease in customer satisfaction in spite of profitability.</td>
</tr>
<tr>
<td>Shareholder Wealth</td>
<td>It measures the monetary reward that owners seek by investing in the enterprise. It is necessary for the continuous flow of capital required in many growing companies.</td>
<td>Stock prices are the short-term result of many exogenous variables. Without even considering this fact, it is a result that only confirms management's &quot;upstream&quot; efforts.</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>This is an &quot;upstream&quot; causal factor that management must get right if any, or all, of the other goals are to be achieved. The PIMS Study (Gale 1994) showed that superior quality leads to better financial results.</td>
<td>This is a necessary but not sufficient condition for achieving the other goals. It is also a moving target, dependent on other factors, such as competitor performance. There may be a long lead time before monetary results are achieved.</td>
</tr>
</tbody>
</table>
Selection of goals is important because goals are an integral part of corporate culture. Corporate culture is the foundation for the direction of the company, how its people decide issues, and how it interacts with its stakeholders. The process of choosing the goals of the organization is of critical importance to the organization. The goals selected as part of the strategic planning process direct the efforts of everyone in the organization. In effect, they help determine corporate culture.

What does this mean for managers of business organizations in a practical sense? Managers should keep their eyes on the upstream actionable steps, focus on measurements of customer satisfaction, and emphasize customer satisfaction and quality at every business meeting. Costs and profits are important downstream confirming indicators of quality, but managers should not keep their eyes solely on them. The goal of customer satisfaction becomes the key to success among equal goals.

In the contemporary environment of greater domestic and international competition, the necessity to focus on understanding customers’ changing needs is extremely important. This focus must not be relegated to the background of management thought or to a position of secondary consideration. Anything short of continuous improvement in products and processes to meet the changing needs of customers is very risky to the organization’s quest for longevity and for the well-being of managers and stockholders.

Management’s role is to instill this customer focus throughout the organization. Expect people to measure both internal and external customer satisfaction. Expect them to work to improve customer satisfaction continuously. Reward them for doing so. Build these rewards into the company’s systems. Have employees justify budget requests based on customer satisfaction and high-quality processes, believing that profits will follow.

One approach to driving the customer satisfaction goal throughout the organization is to encourage all employees to “think globally, and act locally.” Thinking globally refers to satisfying the external or end customer of the organization as the mission of the organization. Each employee must contribute to this satisfaction of the end customer, and each employee should know how he/she adds value for the end customer.

However, on a day-to-day basis, employees should act locally, to satisfy internal customers. Each member of the organization should work to satisfy the customer of that individual’s work: the next person in line in the horizontal flow of work through the organization.

Before an organization member can satisfy the needs of the next person in line, that person (the internal customer) must be identified. Frequently, the next person in line is in another department, because work tends to flow horizontally through an organization, not vertically within departments. Figure 4 illustrates a typical organization chart. Work tends to flow from department to department across the grey spaces on the chart. The dashed lines in Figure 4 indicate examples of the flow of work. Employees need to understand how work flows and who their customers
Management implications, continued

are. Employees must ensure that internal customers are satisfied by "managing the white spaces," a powerful construct that emerged from the quality management arena. It refers to the awareness that work is accomplished horizontally in an organization, and that the "white spaces" between the various functional areas (silos) provide great opportunities for increasing the efficiency and effectiveness of the hand-offs of goods and services.

For several years, a number of professionals have expressed concern about the future of quality management, beginning with a special issue of Quality Progress in July 1987. Recently, a few authors have discussed the future of quality management and suggested that the movement is fading (King 1998–99, Van der Wiele et al. 2000, Watson 1999). Some companies have dismantled their quality departments, and quality management courses and programs, from community colleges to graduate schools, have folded. Six Sigma, the newest entrant into the quality movement with its focus on profit impacts, is now emphasized in many organizations to the point where it is driving out prior broad-based quality management efforts. (Note, however, that customer focus is a major tenet of Six Sigma.)

Without the quality movement in general, and quality directors within companies to keep the customer satisfaction focus before the eyes of senior management, is business returning to driving while constantly looking in its rearview mirror? Will focus on balanced scorecards become displaced by the limited focus of the past on financial reports?

The authors strongly believe that letting the quality management movement fade away is highly dysfunctional for competitive success. Doing so will spell a retreat to the singular financial emphasis of the past, which has been shown not to sustain the organization in the long run. Businesses that have a financial lead lose it in a relatively short period of time if they don't maintain a customer focus (Pascale 1990). In contrast, firms that excel in customer satisfaction enjoy better financial results: higher prices, greater cash flow, and greater return on investment (Gale
Management implications, continued

1994). An unbalanced focus on profits often leads to counterproductive cost-cutting measures, decisions to let inferior product get shipped, and decreases in employee and customer satisfaction. The result is a decrease in competitiveness that makes our businesses, and the economy of our country, vulnerable to world competition.

The business community can't let the quality management movement diminish or revert to quality assurance activities limited to the production or operations areas. If American business does not want a repeat of the loss of a significant market share to post-WWII Japan or to other foreign producers, like what happened to the automobile, shoe, steel, and television industries, it must continue to focus on customer satisfaction.

This discussion compares three schools of thought about the choice of an appropriate leading goal for a business firm to accomplish all of its goals. The goals discussed are 1) maximization of profit, 2) maximization of shareholder wealth, and 3) satisfaction of customer wants and needs. These goals, individually and collectively, have conceptual appeal and are appropriate in the pursuit of organizational success. However, problems arise when managers proclaim a single goal for business, usually either maximization of profit or maximization of shareholder wealth. This orientation leads to the use of either profits or stock prices as the driving metric for the organization.

When customer satisfaction is chosen as the antecedent goal from among the three discussed here, a better result can be achieved. Because customer satisfaction is a gateway to the other two resulting goals, (1) it focuses company personnel on upstream indicators that allow them to better manage the present and long-run future of the firm so that all parties clearly benefit, (2) it directly motivates company personnel to deliver on promises to satisfy customers' needs first, and (3) it ensures that the company will meet the other two goals in the process. The needs of stockholders for profits and equity values are more easily attained due to the increased demand for goods and services created by satisfied customers and the larger financial returns that are the result of this increased demand.

In the opinion of the authors, it is not necessary to choose among the three competing goals discussed herein. It is important, however, to understand how they relate to each other, particularly with respect to timing. If proper emphasis has not been placed on customer satisfaction as the antecedent goal that will generate greater demand over time, major problems in achieving either profit maximization or shareholder wealth creation will surface. In other words, the goal model we propose for successful organizations is the bottom-up, inverted model shown in Figure 2. The foundation of success is customer satisfaction. Successfully achieving this goal leads to increased profit. From increased profit flows the possibility of increasing shareholder wealth.

The battle of which goal is most appropriate has gone on too long. All the goals discussed here are important. It is the timing of their implementation that

Conclusion: Timing is the key

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holds the key to success in a quality organization. Quality managers should abandon the fight to make customer satisfaction the most important overarching goal of business and begin to educate their organizations about the relationships between and among all the important goals they should be pursuing. The choices should not be about what goals should be pursued. Rather, they should be about when each one should be pursued. Timing is the key.

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References

References, continued


Editorial assistance for this article was provided by Laurence Smith.
Measuring Real Progress

Ronald Colman, Ph.D., Executive Director, GPI Atlantic, Halifax, Nova Scotia, Canada

This paper describes the necessity of having new measures for progress on the society level. This discussion is not really new; but it is new that a jurisdiction (Nova Scotia) will soon have a detailed and policy-relevant measure of well-being and sustainable development available and ready for actual application in practice, and that a national statistical agency (Statistics Canada) has been interested in and supportive of the work. We have the same problem in industry because all traditional accounting systems are obsolete. We are trying to solve this problem with the use of excellence models like the Malcolm Baldrige National Quality Award or the Balanced Score Card for the deployment process. Some of us know that we need stakeholder approaches instead of simple shareholder-value concepts. Colman is describing the same problem on a society level. The old measure is leading to wrong goals. Growth per se cannot be a value worth living for. The use of a Genuine Progress Index (or the use of a Society Excellence Model) is a measure we owe to our children.

—Klaus J. Zink, Chair, Industrial Management and Human Factors, Univ. of Kaiserslautern, Germany

Introduction

There is remarkable consensus across all political divisions on the fundamental principles of a decent society and on the benchmarks that would signify genuine progress. We all want to live in a peaceful and safe society without crime. We all value a clean environment with healthy forests, soils, lakes, and oceans. We need good health, strong communities, and time to relax and develop our potential. We want economic security and less poverty.

No political party officially favors greater insecurity, a degraded environment, or more stress, crime, poverty, and inequality. Why then do we see policies that promote those very outcomes? Why have we been unable to create the kind of society we genuinely want to inhabit? Why have we not ordered our policies and priorities in accord with our shared values and human needs?

One reason is that we have all been getting the wrong message from our current measures of progress, which are based primarily on economic growth statistics as measured by changes in the Gross Domestic Product (GDP). All of us—politicians, economists, journalists, and the general public—have been completely hooked on the illusion that equates economic growth with well-being and prosperity. This was not the intention of those who created the GDP. Simon Kuznets, its principal architect, warned 40 years ago:

The welfare of a nation can scarcely be inferred from a measurement of national income.... Goals for “more” growth should specify of what and for what.¹

GDP growth statistics were never meant to be used as a measure of progress, as they are today. In fact, activities that degrade our quality of life, like crime, pollution, and addictive gambling, all make the economy grow. The more fish we sell and the more trees we cut down, the more the economy grows. Working longer hours makes the economy grow. And the economy can grow even if inequality and poverty increase.

Engines of growth

Here in Canada we have been enamored with the “dynamic” American economy and rapid growth rates through the 1990s. But we do not often ask, as
Kuznets counsels, what is driving that growth. For example, one of the fastest growing sectors of the American economy is imprisonment, which grew at an annual rate of 6.2% throughout the 1990s. One in every 150 Americans is now behind bars, the highest rate in the world compared to one in 900 Canadians and one in 1,600 Nova Scotians. The O.J. Simpson trial alone added $200 million to the U.S. economy, and the Oklahoma City explosion and Littleton massacre fueled the booming U.S. security industry, which now adds $40 billion a year to the economy, with most sales now going to schools. Gambling is another rapid growth industry—a $50 billion a year business in the U.S. Divorce adds $20 billion a year to the U.S. economy. Car crashes add another $57 billion.

The more rapidly we deplete our natural resources and the more fossil fuels we burn, the faster the economy grows. Because we assign no value to our natural capital, we actually count its depreciation as gain, like a factory owner selling off his machinery and counting it as profit.

Overeating contributes to economic growth many times over, starting with the value of the excess food consumed and the advertising needed to sell it. Then the diet and weight-loss industries add $32 billion a year more to the U.S. economy, and obesity-related health problems another $50 billion, at the same time that 20 million people in the world, mostly children, die every year from hunger and malnutrition.

Similarly, toxic pollution, sickness, stress, and war all make the economy grow. The Exxon Valdez contributed more to the Alaska economy by spilling its oil than if it had delivered the oil safely to port, because the entire cleanup costs, lawsuits, and media coverage added to the growth statistics. The Yugoslav war stimulated the economies of the NATO countries to the tune of $60 million a day, and our economies will benefit even more by rebuilding what we have destroyed.

In short, our growth statistics make no distinction between economic activity that contributes to well-being and that which causes harm. Growth is simply a quantitative increase in the physical scale of the economy, and it tells us nothing about our actual well-being.

Ironically, while we are so busy counting everything on which we spend money, we assign no economic value to vital unpaid activities that contribute to our well-being. Citizenship and voluntary community service, which constitute the backbone of civil society, are not counted or valued in our measures of progress because no money is exchanged. If we did measure them, we would know that volunteer services to the elderly, sick, disabled, children, and other vulnerable groups have declined throughout Canada during the 1990s at the same time that government has cut social services, leading to a cumulative 30% erosion in the social safety net.

Even though household work and raising children are more essential to basic quality of life than much of the work done in offices, factories, and stores, they have no value in the GDP, while every additional lawyer, broker, and advertising executive
is counted as a contribution to well-being. We value the booming child care industry as the fourth fastest growing industry in the country, but we do not count unpaid child care, and so we do not notice that parents are spending less time with their children than ever before—a sign of progress?

If we were to count voluntary and household work, we would see that they add $325 billion a year of valuable services to the Canadian economy. If we measured the household—not just as a source of consumption, as taught in every economics textbook, but as a productive economic unit—we would discover that total paid and unpaid work has steadily increased. In 1900, a single-earner male breadwinner worked a 59-hour week in Canada, while a full-time female homemaker put in an average 56-hour week of household work, for a total household workweek of 115 hours. Today the average Canadian dual-earner couple puts in 79 hours of paid work and 56 hours of unpaid household work a week, for a total household workweek of 135 hours.

All those extra \textit{paid} hours fuel economic growth and are counted as progress. But the loss of “precious” free time is invisible and unvalued in our measures of progress. Aristotle recognized 2,400 years ago that leisure was a prerequisite for contemplation, informed discussion, participation in political life, and genuine freedom. It is also essential for relaxation and health, for spiritual practice, and for a decent quality of life.

The things we measure and count—quite literally—tell us what we value as a society. If we do not count non-monetary and non-material assets, we effectively discount and devalue them. And what we don’t measure and value in our central accounting mechanism will be effectively sidelined in the policy arena. We may pay pious public homage to environmental quality and to social and spiritual values, but if we count their degradation as progress in our growth measures, and do not count their preservation or improvement as assets, we will continue to send misleading signals to policy makers and public alike. The result will be to blunt effective remedial action, and to distort policy priorities.

Until we explicitly assign economic value to our free time, voluntary community service, parental time with children, and natural resource wealth, they will never receive adequate attention on the public policy agenda. Similarly, until we assign explicit value to equity in our growth measures, we will continue to give little policy attention to the fact that here in Nova Scotia the poorest 40% of households have lost 20% of their real income after taxes and transfers since 1990.

The obsession with economic growth and its confusion with quality of life have led us down a dangerous and self-destructive path. It is doubtful that we will leave our children a better legacy until we stop gauging our well-being and prosperity by how fast the economy is growing, and until we stop misusing the GDP as a measure of progress. Thirty years ago, just before he was assassinated, Robert
A better way to measure progress, continued

Kennedy remarked:

Too much and too long, we seem to have surrendered community excellence and community values in the mere accumulation of material things.... The Gross National Product includes air pollution and advertising for cigarettes, and ambulances to clear our highways of carnage. It counts special locks for our doors, and jails for the people who break them. The GNP includes the destruction of the redwoods and the death of Lake Superior. It grows with the production of napalm and missiles and nuclear warheads.

And if the GNP includes all this, there is much that it does not comprehend. It does not allow for the health of our families, the quality of their education, or the joy of their play. It is indifferent to the decency of our factories and the safety of our streets alike. It does not include the beauty of our poetry or the strength of our marriages, or the intelligence of our public debate, or the integrity of our public officials.

The GNP measures neither our wit nor our courage, neither our wisdom nor our learning, neither our compassion nor our devotion to our country. It measures everything, in short, except that which makes life worthwhile.3

What is urgently, indeed desperately, needed are measures of well-being, prosperity, and progress that explicitly value the non-material assets that are the true basis of our wealth, including the strength of our communities, our free time, the quality of our environment, the health of our natural resources, and our concern for others. The means to do so exist.

In fact, tremendous progress has been made in the last 20 years in natural resource accounting, and in developing good social indicators, time use surveys, environmental quality measures, and other means of assessing well-being and quality of life. We are now completely capable of measuring our progress in a better way that accords with our shared values and lets us know whether we are moving towards the society we want to create.

After three California researchers developed a Genuine Progress Indicator (GPI) in 1995, incorporating 26 social, economic, and environmental variables, 400 leading economists, including Nobel laureates, jointly stated:

Since the GDP measures only the quantity of market activity without accounting for the social and ecological costs involved, it is both inadequate and misleading as a measure of true prosperity. Policy-makers, economists, the media, and international agencies should cease using the GDP as a measure of progress and publicly acknowledge its shortcomings. New indicators of progress are urgently needed to guide our society.... The GPI is an important step in this direction.4

GPI Atlantic is developing a Genuine Progress Index as a pilot project for Canada

Here in Nova Scotia GPI Atlantic, a non-profit research group, is developing a Genuine Progress Index as a pilot project for the country, with advice and support from experts in Statistics Canada. We hope to have it ready for use before the end of the year 2002. It is designed as a practical policy-relevant tool that is easy to maintain and replicate, that can accurately measure sustainable development, and that can provide much-needed information to policy makers about issues that are currently hidden and even invisible in our market statistics.

The Nova Scotia GPI assigns explicit value to natural resources, including soils, forests, fisheries, and non-renewable energy sources, and assesses the sustainability of

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GPI Atlantic is developing a GPI as a pilot project for Canada, continued

harvesting practices, consumption habits, and transportation systems. It measures and values unpaid voluntary and household work, and it counts crime, pollution, greenhouse gas emissions, road accidents, and other liabilities as economic costs—not gains, as the GDP does.

The index goes up if our society is becoming more equal, if we have more free time, and if our quality of life is improving. It counts our health, educational attainment, and economic security. It attempts, in short, to measure “that which makes life worthwhile.” It is common-sense economics that corresponds with the realities of our daily lives as we actually experience them.

Costs and benefits

Unlike the GDP, the GPI distinguishes economic activities that produce benefit from those that cause harm. Having a more peaceful society may actually show up as a disadvantage in the GDP and growth statistics.

By contrast, the GPI regards a peaceful and secure society as a profound social asset, with higher crime rates a sign of depreciation in the value of that asset. Unlike the GDP, lower crime rates make the GPI go up, and crime costs are subtracted rather than added in assessments of prosperity.

GPI Atlantic found that crime costs Nova Scotians $1.2 billion a year, or $3,500 per household, including $312 million in victim losses; $258 million in public spending on prisons, police, and courts; and $46 million in home security expenses. Nova Scotian households pay $800 a year more in higher prices due to in-store retail theft and business crime prevention costs, and $200 more per household in higher insurance premiums due to insurance fraud.

Canadians are three times as likely to be victims of crime as their parents were a generation ago. According to the GPI, this is not a sign of progress, even though our economy may grow as a result. GPI Atlantic found that if crime were still at 1962 levels, Nova Scotians would be saving about $750 million a year, or $2,200 per household.5

The GPI takes a similar approach to road accidents, toxic pollution, and greenhouse gas emissions, which are also seen as costs rather than benefits. Like crime and resource depletion, they are areas of the economy where more growth is clearly not desirable.

By incorporating “external” costs directly into the economic accounting structure, the “full cost accounting” mechanisms in the GPI can also help policy makers to identify investments that produce lower social and environmental costs to society. Gambling, clear-cutting, and other growth industries might receive less government support if social costs were counted, and sustainable practices might receive more encouragement.

For example, GPI Atlantic recently found that a 10% shift from truck to rail freight would save Nova Scotian taxpayers $11 million a year when the costs of greenhouse gas emissions, road accidents, and road maintenance costs are included. Telecommuting two days per week would save $2,200 annually per employee when travel time, fuel, parking, accident, air pollution, and other environmental and social
Costs and benefits, continued

The costs of holding on to the illusion that “more is better” are frightening. Scientists recognize that the only biological organism that has unlimited growth as its dogma is the cancer cell, the apparent model for our conventional economic theory. By contrast, the natural world thrives on balance and equilibrium, and recognizes inherent limits to growth. The cancer analogy is apt, because the path of limitless growth is profoundly self-destructive. No matter how many cars we have in the driveway or how many possessions we accumulate, the environment will not tolerate the growth illusion even if we fail to see through it.

Valuing both natural resources and time provides an accounting framework that recognizes inherent limits to our economic activity and values balance and equilibrium. In the GPI, natural resources are valued as finite capital stocks, subject to depreciation like produced capital. Genuine progress is measured by our ability to live off the income, or services, produced by our resources without depleting the capital stock that is the basis of wealth for both our children and ourselves.

The GPI acknowledges the full range of ecological and social services provided by these resources. The GPI Forest Account, for example, counts not only timber production, but also the value of forests in protecting watersheds, habitat, and biodiversity; guarding against soil erosion; regulating climate and sequestering carbon; and providing for recreation and spiritual enjoyment. Healthy soils and the maintenance of multi-species, multi-aged forests in turn provide multiple economic benefits, by enhancing timber productivity; increasing the economic value of forest products, protecting against fire, disease, and insects; and supporting the burgeoning eco-tourism industry.

The massive unemployment created by the collapse of the Atlantic ground fishery punctured the conventional illusion that jobs and environmental conservation are in conflict. Failure to protect and conserve a valuable natural resource resulted in the loss of 40,000 fisheries jobs in the region.

We now understand that soil erosion today threatens food security for our children and that valuing and protecting our resource wealth are essential to protecting the human economy.
Valuing time

Like natural resources, time is also finite and similarly limits economic activity. We all have 24 hours a day and a limited life span. How we pass that time, and how we balance our paid and unpaid work, our voluntary service, and our free time, are measures of our well-being, quality of life, and contribution to society. The GPI uses time-use surveys to measure and value time over a full 24-hour period and to assess the balance among its alternative uses. Measuring time as time, rather than as money, also cuts through the myth of limitless growth.

What happens when we start valuing time? The policy implications are profound. For example, GPI Atlantic found that Nova Scotians have the highest rate of voluntary activity in the country, giving 134 million hours a year, the equivalent of 81,000 jobs, or $1.9 billion in services, equal to 10% of our GDP—a reservoir of generosity completely invisible in our conventional accounts. Unmeasured and unvalued, the voluntary sector has not received the support it needs to do its work well.

Value of work

Longer work hours due to downsizing and declining real incomes have squeezed volunteer time, producing a steady decline of 7.2% in voluntary service hours over the past ten years. For the first time, claims by the Canadian Finance Minister that volunteers could compensate for government service cuts have been disproved. Without tracking the unpaid volunteer sector, such government statements could never be tested.

Measuring unpaid household work shines the spotlight on the time stress of working parents struggling to juggle job and household responsibilities, and on the need for family-friendly work arrangements and flexible work hours. The modern workplace has not yet adjusted to the reality that women have doubled their rate of participation in the paid work force. Working mothers put in an average of more than 11 hours a day of paid and unpaid work on weekdays, and more than 15 hours of unpaid work on weekends. According to Statistics Canada, the average working mother today puts in a 75-hour workweek.

Measuring housework also raises important pay equity issues. Work traditionally performed by women in the household and regarded as “free” has been devalued in the market economy, resulting in significant gender pay inequities. Although it is an important investment in our human capital, and it requires vital skills and continuous alertness, child care workers in Nova Scotia earn an average of only $7.58 an hour.

GPI Atlantic found that single mothers dependent on the household economy put in an average of 50 hours a week of productive household work. If it were replaced for pay in the market economy, this work would be worth $450 a week. Because it is invisible and unvalued, 70% of single mothers in Nova Scotia live below the “low-income cut-off,” the major cause of child poverty in the province. From the GPI perspective, social supports for single mothers are not “welfare” any more than taxpayer subsidies for job creation in the market economy are “welfare.” They are seen, instead, as essential social infrastructure for the household economy.
Equity and job creation

Millions of Americans have been left behind by the growth spurt in that country. The U.S. Census Bureau reports that income inequality has risen dramatically since 1968: by 18% for all U.S. households, and by over 23% for families. The richest 1% of American households now owns 40% of the national wealth, while the net worth of middle class families has fallen steadily through the 1990s due to rising indebtedness. Is this progress?

In 1989 the Canadian House of Commons unanimously vowed to eliminate child poverty by the year 2000. Since 1989 child poverty has increased by 47%. In other words, there is no guarantee that the tide of economic growth lifts all boats, and the evidence indicates that the opposite is frequently the case.

For this reason the GPI explicitly values increased equity and job security as benchmarks of genuine progress. Indeed, Statistics Canada recently recognized that concern for equity is inherent in any measure of sustainable development. Once limits to growth are accepted, the issue is fair distribution rather than increased production. If everyone in the world consumed resources at the Canadian level, we would require four additional planets earth.

Within this country, Statistics Canada points to a growing polarization of hours as the main cause of increased earnings inequality. The growth of insecure, temporary, and marginal employment—the engine of employment growth in the 1990s—means that more Canadians cannot get the work hours they need to support themselves. At the same time, due to downsizing and declining real incomes, more Canadians are working longer hours.

By counting underemployment and overwork as economic costs, and giving explicit value to equity and free time, the GPI can point to a range of intelligent job creation strategies that are not dependent on more growth.

Shifting the viewpoint

None of this means that there should be no growth of any kind. Some types of economic growth clearly enhance well-being, increase equity, and protect the environment. There is vital work to be done in our society—raising children, caring for those in need, restoring our forests, providing adequate food and shelter for all, enhancing our knowledge and understanding, and strengthening our communities.

But we will never shift our attention to the work that is needed if we fail to value our natural resources, our voluntary service, and our child rearing, and if we place no value on equity, free time, and the health of our communities. And we will never escape from the materialist illusion that has trapped us for so long, or even know whether we are really better off, if we continue to count costs like crime and pollution as benefits, and if we measure our well-being according to the GDP and economic growth statistics.

We can begin to fashion more self-reliant and self-sufficient forms of community economic development that provide a real alternative to increasing reliance on the international market, which puts our destiny in the hands of forces beyond our control. Knowing that more possessions are not the key to happiness and well-being,
Shifting the viewpoint, continued

we can still take back our future, and perhaps even live a little more simply.

Nova Scotia seems particularly fertile ground for this experiment, because it has been just far enough removed from the materialist mainstream to preserve its community strength, spiritual values, quality of life, and a strong tradition of generous community service, more effectively than many other parts of North America. The province has also experienced first-hand the collapse of a natural resource, and it has not generally been well served by conventional economic theory, thus creating a greater openness to alternatives. Already Kings County and Glace Bay, Nova Scotia, are developing community-level GPIs for actual use as a measure progress and a strategy of community development, and other counties will do so as soon as it is complete.

The cusp of the millennium is a rare moment in history when a long-term practical vision can actually overpower our habitual short-term preoccupations. The time has never been better to contemplate the legacy we are leaving our children and the society we want to inhabit in the new millennium. It is a moment that invites us to lay the foundations of a genuinely decent society for the sake of our children and all the world’s inhabitants.

References


2. All facts and figures in this article have been assembled from several detailed GPI Atlantic reports, which are available at the GPI Atlantic website, www.gpiatlantic.org. Readers will find fully referenced sources for all statistics in those reports. The purpose here is, rather, to use the statistics for illustrative purposes to demonstrate the basic purpose, scope, and approach of the Genuine Progress Index.


4. Signatories include Robert Dorfman, Professor Emeritus, Harvard University; Robert Heilbroner, Professor Emeritus, New School for Social Research; Herbert Simon, Nobel Laureate, 1978; Partha Dasgupta, Oxford University; Robert Eisner, former president, American Economics Association; Mohan Munasinghe, Chief, Environmental Policy and Research Division, World Bank; Stephen Marglin and Juliet Schor, Harvard University; Don Paarlberg, Professor Emeritus, Purdue University; Emile Van Lennep, former Secretary General, OECD; Maurice Strong, Chair, Ontario Hydro, and Secretary General, Rio Earth Summit; and Daniel Goeudevert, former Chairman and President, Volkswagen AG. Full text and signatory list available from *Redefining Progress*, 1904 Franklin St., Oakland, CA 94612.

5. This data is from a detailed, 223-page “Cost of Crime” report that is available through the GPI Atlantic web site at www.gpiatlantic.org. Readers will find fully referenced sources for facts and statistics cited here in that report. The purpose here is simply to use some of those statistics for illustrative purposes to demonstrate how the GPI treats crime costs very differently from our standard economic growth measures.

Author information

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Editorial assistance for this article was provided by Laurence Smith.