# From white teeth to heart transplants: evolution in international concepts of the quality of healthcare

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Edgar Mannheimer

AM SURE I WOULD HAVE LIKED EDGAR Mannheimer. After all, he was a pediatric cardiologist who developed an interest in public health. He was born in Göteborg, Sweden in 1904. His father was a lawyer and his mother a painter. In 1940, his dissertation on "Calibrated Phonocardiography and Electrocardiography" described modern approaches to diagnose congenital heart disease. In less than half a century, both technologies have become supplanted by better, more modern, and more expensive tests. In 1947, he travelled to Baltimore and became one of the most important international pupils of Helen Taussig.

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He quickly returned to Stockholm, and participated in the first Blalock-Taussig anastomosis to be constructed in Sweden. Many of us have read parts of "Morbus coeruleus" the important early treatise on cyanotic congenital heart disease. Mannheimer was its chief editor.

Perhaps, after such a major work, one tends to look around. Mannheimer did exactly that. Thus, in 1957, he moved to Addis Ababa, Ethiopia, where he became the first chief of the Ethiopian Swedish Hospital. Among his numerous accomplishments there, he created a network of Welfare Centres for Children. Tragically, but perhaps fittingly, he died in 1965, in Uganda, in an automobile accident while transporting pediatricians to a course in maternal child health.

In a detailed retrospective, <sup>1</sup> Lars-Erik Carlgren provided an up-close view of the man:

"He neither treated children from above, nor did he sit down pretending to be on their level, but he just talked to them in a true democratic way – and, of course, the children loved him. His disarming kindness, great charm and total lack of conventionalism were combined with a strong sense of responsibility from which we younger have much to learn."

It is with a great deal of enthusiasm and warmth that I dedicate my remarks to Edgar Mannheimer, and I am honored to have been asked to deliver these remarks in the country of his birth.

# From white teeth to heart transplants

In 1950, in the United States of America, the most visible measure of the quality of health care was white teeth – everyone wanted them. Over the last half century, quality has become increasingly important in the United States, and now applies to complex procedures such as heart transplants. The movement to provide quality is, I believe, the most important byproduct of our very unusual system of

health care: the pearl in the oyster of managed care, and perhaps one of the exports worthy of sharing with the rest of the world.

It is my intention to show you how we evolved through the tortuous changes in our system of health care over the past 50 years. Along the way, it will become clear that many of our experiments have been uniquely American, and could not, and probably should not, be replicated around the world. On the other hand, our current passion for quality, and the elimination of medical errors, stems from the most recent experiment, managed care, in which the price of health care was driven ever downwards without the ability to demonstrate that quality was suffering, although it probably was.

As we consider exporting our systems which assure quality, we must likely modify them for the people who will use them. Using this hypothesis, I asked the members of the Association for European Pediatric Cardiology to survey themselves as physicians, as well as their patients, about what they considered high quality health care. That survey revealed that there were differences between doctors and patients. It also showed that there were differences on each side of national borders. Perceptions of quality depend on points of view as well as culture. We need to celebrate these differences, but we also need to learn from each other in order to increase the quality of what we do. At the end, I will suggest ways in which we can each move forward, even as early as next week, so as to improve the care given to our patients.

# A brief history of health care in the United States of America from 1950 through 2000

During, and immediately after, the Second World War, wages were kept constant in the United States, thinking that it was not appropriate for those left behind to profit from the War: a so-called "wage freeze". Individual businesses, nonetheless, needed to retain and attract workers. While the government had frozen wages, it did not put a freeze on benefits that could be offered to workers. Employers, therefore, began to provide health care insurance to employees as well as their families as a benefit. Even after the wage freezes were lifted, the provision by employers of the benefits of health care became, in many areas, an accepted part of the employment package.

• In the mid 1950s, the taxing authority of the United States of America allowed health care benefits to be deducted as a business expense, thereby providing even greater incentive to the employer. In this way, the "employer-based insurance" system was born. This practice was not necessarily based on sound considerations of policy,

- but on a transient aberration in the job market. Nonetheless, to the present day, approximately 90 percent of those who obtain private health care insurance do so through their employer.
- In the 1960s, the Congress of the United States of America decided that it needed to be certain that health care was available to certain fragile populations. Two public insurance programs were born: a federal program called Medicare for the aged, covering all those over the age of 65 regardless of income; and a federal /state program called "Medicaid", covering the poor at two ends of the age spectrum: poor children and pregnant women at one end, the old in nursing homes at the other end. When Federal funding became available for these groups, the number of patients seeking health care dramatically increased, producing a shortage of both hospitals and physicians. To deal with this, the Government created programs to pay for the construction of hospitals, as well as programs to pay for the education of physicians. Approximately one-third of people with health insurance in the United States of America are covered by one of these public plans. In the beginning, the systems for payment in the public sector created incentives for hospitals and physicians. Hospitals were paid "cost plus". In other words, any cost to the hospital was passed directly to the government, together with an added percentage. This most definitely increased utilization in hospitals since, the more they did, the more they made. Similarly, physicians were paid "fee-for-service": any service they provided, such as a visit at a clinic, or a surgical procedure, was reimbursed at whatever rate the physician felt was "reasonable".
- In the 1970s, along with the growth in hospitals and physicians, came numerous medical advances. For example, there was a logarithmic growth in surgery for congenital cardiac malformations. Given the methodology for reimbursement, specialties and specialists abounded, and most paid or were paid extremely well. Those who benefited most were those able to practice high tech medicine, in other words those working in medical schools and teaching hospitals - the so-called "Academic Health Centers". As much of the technology was new, and had not diffused into the private sector, Academic Health Centers were able to command a premium of as much as 30 percent, meaning that, for most services provided by the physicians, medical schools and teaching hospitals received 30 percent more than did physicians and hospitals in the community. This did not create much difficulty since, for the time being, those services could not be done in the community.

- In the 1980s, the government began to feel the pinch of rapidly escalating prices. The hospital sector was the first to come under new regulations. The government decided to pay a single price for a given diagnosis for a patient, regardless of how long the hospitalization lasted. Most certainly, this had the immediate effect of shortening hospitalizations, as hospital administrators pressured doctors to discharge patients as rapidly as possible. Despite the fact that famous legal cases were brought by patients discharged prematurely from the hospital, such as a diabetic whose limb became gangrenous at home after a premature discharge, these were anecdotal. It was not possible to demonstrate a reduction in "quality" due to early discharge from hospital because the system to measure quality did not exist. For example, even measuring something so simple as readmission within 30 days, a potential problem of premature discharge, cannot be done even today unless the patient is readmitted to the same hospital. Throughout the 1980s, physicians continued to be paid what they asked. The number of specialists continued to increase, and technology diffused into the community. For example, in pediatric cardiology, the ability to confirm most diagnoses by echocardiography in the office permitted the growth of private practice.
- In the 1990s, it became clear by most measures that there were too many physicians, and too many hospital beds. At the same time, the competitiveness of the United States throughout the world was falling, and the high price of health care was thought to be a contributing factor. Lee Iacocca, then chairman of the board of Chrysler, was quoted as saying that, in each of his automobiles, they "pay more for health care than for the steel in the car". Government spending on health care was equally felt to be out of control. In response, mirroring the regulations 10 years earlier for hospital payments, payments by the government to physicians were also regulated.

It was largely the cost of health care, both private and governmental, that caused the United States of America to seek "health care reform" in the early 1990s. A number of sweeping programs were proposed, most notably the "Health Security Act" by President and Mrs Clinton. All failed for a number of political and financial reasons. A major contributor was the perception that high prices could be brought down by relying on the market rather than regulation or government.

By "the market", they meant "managed care", or insurance programs that affected the way in which physicians managed the care of their patients. The Health Maintenance Organization, essentially an insurance company that "managed the care" of its enrolees, became the vehicle of this market-driven philosophy. The concept of the Organisation was that each patient would have a primary care physician who was always available, and who knew the entire medical history of the patient. This primary care physician was to serve as a "gatekeeper", determining which patients required referral to expensive specialists. While these concepts were admirable, remember that these Organisations were charged by industry to reduce cost. Additionally, the Organisations were largely "for-profit", being owned by Wall Street investors. The concepts of "appropriate" care and "continuity", therefore, became overshadowed by concerns about the bottom line. In reality, what happened was that Organisations would only contract with certain physicians, or "providers" in the new marketplace jargon, who ordered very few tests and made few referrals to specialists. The decisions of those physicians in the health plan were further "managed" by the medical director of that health plan, or by nurses, whose job it was to limit the use of tests, services, referrals, and hospitalizations. These decisions were sometimes based on published guidelines for practice, but most often on the opinion of the medical director or nurse "reviewer". Additionally, the Organisations developed a new methodology for payment called "capitation", under which a physician was paid a certain amount of money for each patient under his or her care during that month. It did not matter what kinds of medical problems the patient had, the physician received the same fee. If the cost of care for a group of patients exceeded the amount paid, the physician would be called upon, in some instances, to pay for that care from his or her own pocket. It is easy to see how the stimulus to the physician would be to provide less care to the patient. This placed the physician in the untenable position of being at odds with the patient over providing the most necessary care. As if this was not enough to reduce care, the Hospital Maintenance Organisations and the government began requiring more and more written documentation for each service. Most definitely, the most documentation was required for the most complex services, again pushing physicians to do less.

• In the 2000s, as we look back, where have we come? Early in the last decade, the rate of increase in the premiums paid for health care slowed. In 1990, premiums increased on average by 10.9 percent over the year before. By 1995, the average annual increase was only 2.1 percent. In the latter part of the decade, however, physicians and patients rebelled against the tight controls, and in 2000, the yearly premium growth was back to 10.6 percent.

What have we bought? In the United States, which spends the most in the world on health care for each person, our infant mortality is 6.3 per 1,000. This ranks 14th in the world. Our life expectancy is 76.2 years, ranking 21st in the world. It could be said that these are markers of "health care" involving social factors such as teenage pregnancy, drug use, and violence, in addition to the care provided by physicians. What about "medical care"? The mortality rate 20 months after myocardial infarction is the same in the United States as in Canada, despite the fact that spending on health care for each individual in the United States every year is 150 percent that of Canada. An equally alarming index at the end of the century is that 16 percent of the population was uninsured. The uninsured population totalled 45 million people, approximately equal to the combined populations of Canada and Australia. The most important "hole" in our coverage is that the Medicaid program, started in 1965, did not progress beyond nursing homes and children. If you are between the ages of 19 and 64 in the United States of America, and you are not a pregnant woman, you have no guaranteed coverage for health care. The "market" that was supposed to improve health and health care in the United States clearly did not.

# Quality: "The pearl in the oyster of managed care"

As we enter the new millennium, only 30 percent of members of Hospital Maintenance Organisations are satisfied with their health plans. The greatest complaints appear to be in the areas of lack of choice of a physician, and too much bureaucracy. American patients, and their physicians, have now become concerned with quality. The measures of "quality" that have been developed thus far have been those items that have been possible to measure, rather than those which necessarily reflect true "quality" of care. Many of these indexes are "process measures", indicating what was done, rather than the outcome of what happened. As examples, we measure the rate of immunization of the child as opposed to the rate of measles; the provision of screening for breast cancer as opposed to the outcomes of the malignancy itself, the treatment of myocardial infarction with beta-blockade as opposed to mortality; and the length of stay for delivery as opposed to maternal or infant complications. The satisfaction of patients is determined by how many leave the health plan. The "stability" is measured by how many physicians disenroll voluntarily, combined with certain indexes of financial stability. While these early efforts were a start, they left much to be defined.

Table 1. Quality framework. United States Institute of Medicine (2001).

- Safety
- Effectiveness
- Efficiency
- Patient-centeredness
- Timeliness
- Equity

While quality continues to be difficult to define, indeed it may be easier to define poor quality, the Institute of Medicine in the United States has recently described six dimensions of quality (Table 1). Safety includes freedom from "medical errors". An "error" occurs when the original plan had a different outcome than intended. Effectiveness refers to, among other characteristics, whether the outcome of care was as good as it could have been. Efficiency balances the cost and effectiveness, reducing waste as much as possible. "Patient centeredness" includes involving the patient in decision making, and being certain that patient has full access to all records. Timeliness of diagnosis and treatment is self-explanatory, but equity needs to be not only policy, but also fact.

# The survey of the Association for European Paediatric Cardiology: does the definition of quality vary across countries?

While we all understand that the concept of quality is important to all patients and physicians around the world, it is possible that certain elements of quality are more important in certain countries than others. Accordingly, I decided to survey approximately 500 physicians of the Association for European Paediatric Cardiology. I also asked each to administer surveys to five parents of children with congenital cardiac disease. I asked for certain demographic information, as well as completion of a 20-question survey (Table 2). The survey began with the question, "If you could describe the ideal health care system, how important would each of the following be ...?".

I received 554 responses, of which 134 were from physicians and 420 from parents. Responses were received from 33 countries, with sufficient number of responses to permit sub-analysis of results from nine: Italy, the United States of America, the United Kingdom, the Netherlands, Germany, Canada, the Czech Republic, Sweden, and France. Physicians and parents agreed on four of the five top descriptors of quality, namely skill in the doctor, universal coverage, adequate explanation by the physician, and quality of life. Physicians felt that having sufficient time with

#### Table 2. The AEPC Questionnaire.

The Associatiosn of European Paediatric Cardiology Questionnaire

- 1. The doctor is able to spend enough time with the patient
- 2. The patient is able to see the same doctor at each visit
- 3. The doctor is skillful and knowledgeable
- 4. The patient receives emotional support from the doctor
- 5. The doctor explains health problems, tests and treatment in a way the patient can understand
- 6. The patient is in charge of decision making for diagnosis and treatment
- 7. The time a patient waits for an appointment, test or procedure is short
- 8. Specialist doctors are readily available
- 9. Newest technology and newest drugs are used
- 10. Any hospitalizations are as short as possible
- 11. Procedures (like surgery) are used in preference to chronic medication
- 12. Treatment causes the patient to feel physically well
- 13. Treatment prolongs life
- 14. Errors do not occur
- 15. The patient has the ability to sue if he thinks the doctor did something wrong
- 16. A basic level of healthcare is available to all citizens, regardless of ability to pay
- 17. Advanced care (for example, dialysis or heart surgery) is available regardless of increased age of the patient
- 18. Advanced care is available regardless of low likelihood of success
- 19. The patient pays nothing out of pocket (does not receive a bill to pay) at the time of care
- 20. Healthcare to the individual patient is most important (even though less may be available for other members of the community)

Respondents were asked: if you could describe the ideal healthcare system, how important would each of the following statements be? In the left column, labeled 'A', please circle a number from 1–9 for each statement according to it's importance with 1 = No importance and 9 = Extreme importance. In the right column, labeled 'B', please rank your 10 most important statements assigning one number to each statement (assign each a number 1 through 10 with 1 being the most important and 10 being the least important). Only use each number once. You will leave the other 10 of your very least important statements blank, without a rank

the patient was one of the top five, whereas parents thought having no errors made by their physician was one of the top five. Interestingly, in comparing across the nine countries, the view of quality by the physicians was similar in 17 of the 20 statements. There was significant difference in only three questions:

- Ability to sue.
- Lack of physician errors.
- Access to specialists.

While the points of view held by the physicians were relatively similar, the views of the parents concerning quality showed significant differences in 11 of the 20 statements, with parents viewing each of the following as more important than physicians: sufficient time with the physician, new technology, patient in charge, quality of life, out-of-pocket expense, continuity, use of procedures over medications, care with low likelihood of success, access to specialists, emotional support, and universal coverage.

These differences in responses across countries permitted us to take a "snapshot" of the views of the parents. In Germany, they valued "high tech", physician-centered care. In the Czech Republic, parents valued "patient-centered" care that was high tech with the patient in charge. The French parents preferred "traditional", low-tech medicine, and felt universal coverage was an important issue. Parents in

the United Kingdom were more stoic, seeing quality of life as a less important issue. They preferred that the physician be in charge. In the United States, parents were "resigned" to little time with the physician and out-of-pocket expense. They felt that universal coverage was less important.

Within each country, the responses of the parents were compared with those of physicians. In four countries – the United Kingdom, Sweden, France and the Czech Republic – the responses were largely the same for 19 questions, differing only on one. In Canada and the United States, there were significant differences for three and four questions, respectively. The greatest differences between parents and physicians were found in Germany, to five questions, Italy again to five questions, and the Netherlands for eight questions. Across all countries, the greatest difference between parents and physicians was in:

- Use of care with little likelihood of success: parents thought it was more important to provide this care than physicians.
- "Patient involvement with decision making": again, parents thought this was more important than physicians.

#### What can we learn from each other?

Over the past 50 years, the systems of health care have evolved across the world. The overall structure

of most systems has undergone little change, with a governmental system that guarantees coverage for all, and a private system that provides a second tier of care. Major changes occurred in the system within the United States, with sequential large additions to public coverage. Despite this, 45 million citizens remain uninsured. In addition, the United States has experimented with a new model for health care, the Health Maintenance Organization. What can we learn from each other?

- The market-driven health economy of the United States, embodied in the Health Maintenance Organization, did not improve costs, access or quality. None of these indexes has improved over the last 10 years. As costs are increasing worldwide, other countries are beginning to embrace the structure of Health Maintenance Organizations. Before they move in this direction, these nations should look carefully to the United States. As a cost cutting methodology, these organizations were a failure. More than that, they also failed in terms of human relations. Physicians in the United States resent being told how to manage patients by a disconnected doctor or nurse.
- There is a need to focus on providing quality health care. In order to "push back" against the cost pressures of the Health Maintenance Organisation, patients and physicians have clamoured for an adequate way to measure quality, fearing that it might be sacrificed in further efforts to reduce cost. Our measures, nonetheless, are imprecise. We must first define quality and then measure it. So far, we have used processes as surrogate markers. While they are perhaps less important to our patients, and us, they are easier to measure. Measuring outcomes as markers for quality is also difficult because they must be appropriately adjusted for severity of the initial complaint or they are not helpful. The movement to achieve quality will bring with it some degree of standardization: practice guidelines have emerged as methods of insuring care of high quality. Initially, physicians referred to guidelines as "cookbook medicine", but as guidelines become more useable, more specific to different types of patients, and more integrated into practice, for example as part of an electronic medical record, we can hope that they will be better accepted.
- Patients and physicians in different nations define "quality" differently. As guidelines to practice representing broader international constituencies are developed, it will be important to remember that different countries, and even within countries, different physicians and patients may feel

differently about the elements of quality. These differences should be understood, and the care of the patient individualized to the greatest extent possible. Thank goodness we are all different.

## What can we do next week?

In discussions such as these, it is all too easy to make broad predictions of the future, and make recommendations that cannot be put into effect. I would hope to share with you some thoughts about how we can act sooner rather than later in each of the domains of quality.

### Safety

Medical errors are the 8th most common cause of death in the United States - certainly more than congenital cardiac disease. It is likely that errors occupy a similar unenviable position in other countries. We need to recognize this issue and quickly develop methods to allow anonymous reporting of these errors. This is the same sort of reporting used by the United States Federal Aviation Administration, and is extremely effective. How we use reporting needs to focus on systems, rather than individuals. We all know that individuals make mistakes, but it is only systems that can help prevent them. Since we all make errors, we must create systems that make it difficult to make an error. Some of the characteristics of these error-proofing systems include features that, to the greatest extent possible, make slip-ups reversible. We should recognize "rare events" as potentially new events requiring a new approach. We cannot assume that a rare event can be handled the same way as common events, or even the last uncommon event. In these error-prevention plans, it is important to create redundancy and "buddies" who check along with you: for example, two people checking the correct intravenous dosage of digoxin. In the final, and most important, part of a "safety system", we must make it commendable to ask for and to accept help.

#### Effectiveness

We need to practice "evidence-based medicine". As more and more information becomes available about what worked and what did not, we must include it in our guidelines and in our practice. It has been suggested that improving the care of patients is like a "great circle". We can start anywhere on the circle, but let us begin with practice guidelines. These are suggestions for appropriate and inappropriate care. For example, in the guidelines of the American College of Cardiology and the American Heart Association, "Class I" indicates what should be done,

and "Class III" is an indication of what should not be done. The system continues with "Performance measures" which are individual indicators taken from the practice guidelines. For example, if a Class I recommendation after repair of tetral ogy of Fallot is to carry out ambulatory monitoring of the electrocardiogram every five years, the measure of performance is the proportion of the patients of each physician who have undergone such examinations within five years of their last visit for follow-up of tetralogy. Collection of data at the level of the physician then occurs and these data are analyzed, for example, how many of my patients had ambulatory monitoring? Currently in the United States, there are movements to publish data on measures of performance. It is obviously incumbent upon the physician to be certain that the data are correct. Because of this, he or she must appropriately participate in the development of the measures, and the collection and analysis of the data. One would think that publishing the results should be sufficient stimulus for improvement. Other stimuli used to encourage improved physician performance have included reminders in the form of preprinted admitting orders or discharge plans, visits by local expert physicians, and even monetary incentives. We must also recognize that, in certain procedures, higher volume begets higher quality. In other words, the more you do, the better you are. While physicians and hospital administrators ultimately are concerned with the good of their patients, it has nonetheless been difficult throughout the world to centralize even services for pediatric cardiology to achieve higher volume in a given center – the higher volume that is associated with higher quality. This has been particularly difficult in the United States. We need to continue to work, nonetheless, for appropriate centralization for the good of the patients.

While practicing evidence-based medicine is an outstanding goal, "the evidence cannot always tell us when to ignore the evidence". Physicians and their patients must be able to tailor care to the needs of the individual when necessary. We must learn from each of these instances, make note of them, and submit them to the next round of guideline revisions. Our individual differences may turn out to become applicable for large groups of patients. Ultimately, with the revision of the guidelines based upon individual experiences, the process begins again and patient care improves with each turn of the "circle".

# **Efficiency**

As physicians, every day, we can eliminate waste. Cost truly is an issue in health care. Nonetheless, we must be the patient's individual advocate. Rationing for the individual patient on the basis of cost, therefore, is something we should not be called upon to do. This was one of the failings of managed care. On the other hand, we must begin to enter into discussions in our systems for health care about what kinds of services should be provided and covered by the plan for health of the Nation. As we enter the new millennium, the gap between what we can do and what we can afford to do will widen. New expensive technology will be available, but we will simply not be able to afford all of it. We must begin to balance effectiveness against cost. These will be uncomfortable discussions, but as physicians we cannot shirk them. As the advocates for our patients, and as experts, we must participate.

### Patient and family centered ness

Think of the number of times that we, or our colleagues, have looked at data concerning the satisfaction of the patients and said, "They don't understand quality." We are missing the point, because satisfying the patient is exactly what quality is about. It is our duty not only to improve the outcomes for our patients, but also to improve their satisfaction with their care. In the United States, as more employers are giving health care dollars directly to their employees, the so-called "defined contribution", more patients are making the direct decision of which doctors and which hospitals they wish to use, basing those choices on data that they understand, such as items found on a patient satisfaction questionnaire. This benefits all of us. If we want our patients to understand, and we should, then we must teach them the tenets of quality medical care. We must inform and involve them in decision-making. The amount of information and involvement needed by the individual family is most certainly variable, and requires a great deal of work on the part of the physician. Remember also, in our practice of pediatric cardiology, studies have shown that children over the age of 7 years have very definite opinions about their satisfaction with health care, and they may be different from the opinions of their parents.

While the Institute of Medicine report uses the term "patient centeredness", I have broadened this domain to include "other centeredness". In the United States, we must satisfy not only the patient, but also referring physicians, payers, and even the government. One saving grace is that, at some level, someone else thinks that even we need to be satisfied!

#### **Timeliness**

How quickly do you need to be seen? Studies have demonstrated that "amenities" such as timeliness are

directly proportional to the spending for each individual. It would appear that, in those countries willing to spend more on health, the expectations for timeliness are higher. Timeliness is a bit like "white teeth" – It is nice to have, but the problem may not always be urgent. On the other hand, harking back to the satisfaction of the patient, perhaps the most important priority is to individualize. Certain patients are perfectly happy to wait a month for an examination for a cardiac murmur, whereas others consider one day to be too long. We need to have smart sensitive people answering our telephones who can tell the difference between those who feel they must be seen now, whether we agree or not, and those who can wait. In any event, we should aim to exceed the expectations of the patient. "You will not only delight them, but surprise them."

## **Equity**

We in the United States must learn from the rest of the world about universal coverage for health care. Essentially, all other countries can celebrate mandated universal coverage. Nonetheless, the fact that each citizen has a card saying that he or she is "covered" for health care is a long way from true "access", meaning the ability to see an appropriate practitioner at the appropriate time. We all must work for better access in the presence of universal coverage. Clearly, in the United States, we lag in both coverage and access. I am pleased to say that the American College of Cardiology has pledged to work for coverage for all by the year 2010.

# Conclusion: three messages

We must champion quality

It is foolhardy to assume that our own quality is perfect; we must continually question what is right.

We must measure and improve quality

We should begin now to create systems for collection and analysis of data, and be willing to publish our data relative to quality. We should practice evidence-based medicine, while recognizing that at best, in today's world, only about half of the patients will neatly fall into a group covered by the evidence. The other half will require our innovation as well as our respect for their wishes as well as our own. This need to individualize and understand each other is perhaps the most important lesson from the study carried out with the Association for European Paediatric Cardiology.

# Keep ego out of quality

Look at the data; challenge the data appropriately, but similar to Kubler Ross's phases of Death and Dying, at some point we physicians need to give up on the idea that all of our patients are sicker than everyone else's. We must eventually accept that, in many cases, our own quality can improve. We should leave our egos at the door. The greatest ego trip a doctor can have is a patient who is alive and well saying "thank you" – whether for white teeth or for a heart transplant.

#### Reference

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