Perspectives on Changing Times: Implications for Insurance Medicine
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Abstract: Profound changes are occurring in medicine. These changes are in both medicine itself and also in the economic and social context. The driving forces for change include health care reform, sophisticated consumers, new technology, information explosion and ethics of controlling human biology.

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There are profound changes occurring in medicine, both within the practice of medicine itself and also in the social and economic context in which it is practiced. As we grope about for the big picture at the close of the twentieth century, I think there are some important questions we should ask related to insurance medicine. What is going to happen to insurance medicine in the twenty-first century? Will it still be around? Will we still have jobs? If there are a number of challenges coming, will insurance medicine be able and ready to meet these challenges?

This traditional role has served us well over the years, but the world is changing. Many observers within our specialty feel very threatened by what is happening and you hear grim scenarios concerning the end of risk selection, underwriting, insurance medicine and insurance. Some of these observers are the same ones who led us through earlier hard times and so we need to pay attention to their concerns. If we sit passively some of these scenarios may well come true.

The best indication of the future of medicine appeared in an editorial in the British Medical Journal. The authors identified a number of driving forces that are going to transform medicine as it progresses into the twenty-first century. The relevant to insurance medicine include: health care reform, the sophisticated consumer, the new technology, the information explosion and the ethics of controlling human biology. I will comment on each of these and their implications for insurance medicine.
Health Care Reform: The nature of clinical practice is changing from solo practice to large group practice. Payments by consumers are changing from out of pocket to socially organized payment systems. Cost control measures are controlling access to specialists, limiting the use of new technology and controlling hospitalization. Under these systems, the hospital will no longer be the dominant site of care as primary care and ambulatory medicine become central.

Technology is moving rapidly from the technology of failure such as coronary artery bypass graft surgery, organ transplantation or artificial kidney to the technology of prevention such as gene therapy. If medicine moves to diagnosis and treatment of disease at its molecular level, away from the contemporary practice of treating overt symptoms and organ failures, the costs of medical progress might actually decrease. Technology is usually very resource intensive and thus it is very expensive to transplant a liver from a cadaver to a child whose own organ is failing because of a congenital disease. Pediatric liver transplants require skilled surgery, long hospitalizations, many blood transfusions, perpetual suppression of the patient's immune system and extended counseling for the family and for the child. Identifying fetuses at risk for congenital liver disease during pregnancy and then repairing the disorder by gene therapy should prove considerably less expensive, particularly if such therapy be could given once early in life.³

Payment for services rendered is changing. From days in which service was rewarded by fees to systems of capitation and salaried professionals.

The function of physicians is changing. Many years ago, one simply cared for the patient and occasionally cured the problem. In the future, there is going to be population-based care with an emphasis on prevention and maintenance of function.

Globally in health care, governments, private companies and individual patients are making new demands on how we practice medicine. Power is shifting from the physician to the purchaser. These purchasers are demanding much better evidence of effectiveness of new technologies than is currently available and refusing to pay unless we can justify it on a cost-effective basis. The new paradigm in medicine of evidence-based medicine is going to help us in sorting out these new technologies. However, there are limitations with evidence-based medicine. these limitations come when you develop a policy for a population and try to apply it to the individual patient in front of you. It is very, very difficult to do.

The sophisticated consumer or patient. These individuals both now and in the future, have access to CD-ROM, Internet technology and software that have medical text books on them. Not only that, there are programs coming out now that facilitate early assessment of health problems for the lay public. The consumer is going to be much better educated medically. We have already seen this with the AIDS epidemic. The lay public involved with AIDS is much more knowledgeable about it than most physicians. We are going to see a lot more of this in other situations.

As we look into the future, the office encounter and the patient doctor relationship is going to change. Patients are going to visit their physician after having assessed their problem at home on their computers. They may only be coming to visit the physician for confirmation of their diagnosis and, perhaps some additional advice or a prescription. The combination of a sophisticated consumer and twenty-first century physician, educated in population-based medicine and evaluative science, is a very powerful combination. This combination will be extremely well informed. We are going to have to be very careful with the way we formulate risk classification prac-
New technology. The public is always fascinated by technical solutions for human suffering such as transplantation, test tube babies and artificial kidneys. We tend not to be excited about more important global issues such as malaria, infant mortality or dementia. Scientific discovery has a momentum of its own and the consequences for health care are often impossible to calculate. We show that it may be effective in a limited population, but it tends to spread from that into ever expanding populations, both old and young, and costs become prohibitive for governments, hospitals and insurance providers.

Anxiety in patients, uncertainty in physicians and ready access to test procedures and treatments form a vicious spiral of rising and unnecessary expenses. New technology cannot be justified any longer simply because a benefit has been shown. It is now necessary to measure its adverse effects and cost. The problem is that costs, adverse effects and benefits are measured in different types of units. Health economists have developed forms of cost effective analysis that are useful in this situation, but these are complex, primarily designed for making decisions about large populations and are difficult to use on individual patients in one's practice.

Decision making requires not only information on a technical basis, but also judgement. Judgements rest on values. The values that are most important and the values that we rarely consult are the values of the recipients, our patients. There is technology available that we are asked to assess particularly related to health insurance that is useful to patients. However, because of contract limitations and a variety of reasons, we are unable to approve it. That is okay because that is part of our job, but these decisions should be accompanied by a loud protest. It is society (and its government) that enforces these cruel options and it should not be allowed to turn a blind eye to what it is doing.

Molecular biology is perhaps going to transform medicine as much as anything in the twenty-first century. The total exposition of the human genome will deepen our understanding of many diseases right down to the subcellular level. We will have new insights into disease. We will have new diagnostic methods, we will have new ways of treatment where we have had none before. We may well see the elimination of certain diseases such as specific types of cancer and heart disease. I remember when I was going to medical school, one of the most important physicians was the TB doctor. There were TB hospitals all around. They are not around anymore, although there has been a rebirth of TB with the HIV epidemic. We are going to be able to predict disease in individuals. These new changes in molecular biology are extremely exciting and have enormous promise. I think we have to remember, however, that there is a dark side to this. This new biology disturbs the balance of things to a certain extent and sets up unrealistic expectations. There is a time lag between finding oncogenes and the cure for cancer. Despite the advances that are occurring and have occurred to date, and the fact that we know things about diseases at the subcellular level, common diseases remain common and incurable. We treat, but we seldom cure.

Change in mortality is related to two things: either change in the case fatality rates, change in the incidence or both. Most of the diseases that are common and incurable, like many forms of heart disease and cancer are related to incidence. The causes of these lie in the domain of social, economic and environmental factors. We have not talked much about this at all. For instance, if you look carefully at David Eddy's articles in the Journal of the American Medical Association, changing the cost structure and enforcing cost controls is
not going to solve the health care reform problem. We, as a society, are going to have to make some fundamental decisions.

What could have been a wide-open, far ranging public debate about the deeper issues of health care - our attitudes toward life and death, the goals of medicine, the meaning of "health", suffering versus survival, who shall live and who shall die (and who shall decide), has been supplanted by relatively narrow quibbles at the political and policy level. The paradox is that unless we address such basic, almost existential questions, we stand little chance of solving the health care crisis in most countries.

Closely tied to the wave of new technology are profoundly changing ethical, legal and social issues. Broad influential segments are out in society who would bar insurance companies from accessing and using genetic information. This is a major threat to the way we do insurance underwriting and risk classification. However, there is a reason for this. There is concern about genetic discrimination. This is realistic. As physicians involved in this issue it is important to educate our fellow company employees, our medical colleagues, the public and legislators about the implications of genetic testing concerning the differences between life and health insurance and the dangers of anti-selection and the need for full disclosure.

The information explosion. Insurance and medicine are information based subjects. Medical practice has largely lagged behind in the use of information technology when we compare it with other forms of business. There is too much information and not enough time to read, sift through it and digest it. There are approximately twenty medical journals written in the English language in the field of internal medicine with peer reviewed published articles that are directly relevant in day-to-day practice. These twenty medical journals publish six thousand articles per year. An internist who is trying to keep up with that literature would have to read seventeen articles each day and every day of the year.

The biomedical data base probably doubles in terms of information every ten years. It is compounding at a rate of 6 - 7% per year. In ones practice lifetime, the amount of information that is available will increase approximately ten-fold. Of all this information, only about 10 - 20% is transformed into knowledge and, I suspect, very little of this is transformed into wisdom. We have to stop admiring information; most of which is clutter. I think the important thing in the twenty-first century is not knowing everything (because you are not going to be able to do it), but knowing where to find it. I think that new technology is going to assist us in doing that. We need less information and more thinking.

Medical journals are reaching a watershed in terms of cost; postage and particularly paper costs are sky rocketing. Library budgets, with cost containment etc., are decreasing. Some observers think we are going to see the end of the paper medical journal. New technology, with global information servers, will take its place. This will provide daily updates of all articles and abstracts that are published. Journals will be associated with special kinds of software that will adapt the list of articles that are received to your own special needs and wants. There will be special filtering mechanisms that will keep unwarranted information out of your computer.

As well, journal articles are going to change from the way we know them. Using hyper text software and the windows format with its "point and click" type of technology, you will read a medical journal on a computer screen. When you click on the method section, you will see not only the usual data summarized for the article, but with another click all the data the author used for the article will pop up for you to look at, review and perhaps use. If you click on the author’s name, you will see the authors on video discussing their paper.
There will be a virtual information facility. You will walk down a virtual corridor in your computer. You will enter a room that is of interest to you where you can browse an article, for instance, on insurance medicine and even converse via computer with other physicians who are reading at the same time. It sounds exciting.

The ethics of controlling human biology: New technology, cost pressures and sophisticated consumers represent a potentially toxic mixture. We will have to be very careful how we do things in the next few years. Physicians, as well as society, will be part of this. Death and dying will remain a major issue. The legitimacy of rationing will come under enormous scrutiny. The battles may be ugly, political, and confounded by issues such as race and poverty.

Profound questions will be asked about the rights of individuals to control and shape their own biology, as well as the biology of the unborn. Deep seated beliefs about life, health, disease, personality and death will be challenged by the new biology.

These five key forces will impact medicine in general and specifically insurance medicine, but now to look at the whole. One way to answer this is to look at the "big picture" by focusing upon a resonant event, an incident that provides some sort of symbol, or metaphorical snapshot or zeitgeist of insurance medicine’s capability. For insurance medicine, I think that has to be the AIDS epidemic. This what has defined the current role of insurance medicine, it not only defined the current role, but it broadened the role of the insurance medical director.

In the mid 1980’s the insurance industry was presented with a new disease. One for which the industry had not planned or projected reserves. This disease presented immense social, ethical and financial mine fields. In 1985, HIV testing came along. This changed insurance medicine underwriting completely. It resulted in the rebirth of laboratory testing as part of risk selection. Within a year, this was followed by legislation that threatened the risk selection process. Serious ethical issues were raised for which there were no precedents.

Do we have to obtain informed consent when we test someone for HIV? Do we have to give a pretest notice? What do we put in that notice? How do we inform the applicant if they are positive? Do we do it directly or through their doctor? Do we have to notify the partner of the HIV positive applicant? These were major issues. Leadership was provided from the American Council of Life Insurance, Medical Section, Committee on AIDS.

This committee served as an information clearing house not only for the disease itself, but also with respect to legislation and testing procedures. The committee insisted on high standards for the laboratories and insurance medicine. It protected the rights of not only the industry, but also the applicants. Within companies, the insurance medical director became much more important. He educated not only the employees, but the executives of the company. He helped design forms for application and testing purposes. The insurance medical director helped determine what tests would be used, at what levels and finally helped fight the legislation that threatened risk selection.

Based on our experience with HIV and AIDS, I would say that insurance medicine met the challenge squarely and decisively. There were considerable savings to the insurance industry; not only on the bottom line, but also related to the risk selection process itself. We also saved relationships with physicians in the community, the public and lawmakers.

In conclusion, marked changes are occurring in medicine. Marked changes are occurring in insurance medicine. It is ironic that although change is one of the most important, pervasive and inevitable characteristics of the world in
which we live, there is, in most of us, a degree of comfort with the status quo and a reluctance to either initiate change or embrace it willingly.

We should look on change as an opportunity. We, in insurance medicine can have a very important role in the future. Whether by design or luck we have found ourselves at the leading edge, charting new territory as citizens of the global village. We have been there. We have seen that. We have done that.

References