

Paradigm Shifts in Health Care

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Exponential or explosive growth of new information

in the biomedical field in the last fifty years has led to a number of paradigm shifts in the practice of medicine.

Having lived through these changes, the full impacts of these paradigm shifts have not been fully comprehended.

One obvious effect of expansion of information in the Biomedical field, estimated to be doubling every two years. is that no one person can know everything. The two major implications of this are 1) emergence of more and more specialties and 2) pressure on medical educators to select what is relevant to the students taking their courses. This latter is perhaps the most difficult task facing the traditional teacher of any given specialty, be it Anatomy, Pathology, Surgery or Neurology. For the subjects specialists the whole subject is important and they find it difficult fitting in their subject in the overall curriculum. Each specialist feels that he/she needs more not less time in the undergraduate programme. What is of greater concern is that so much of what was taught as facts is not true anymore. It has been estimated that fifty percent of the information of today will be replaced by new information in five years. Which fifty-percent will be replaced is not predictable. So gone are the notes, slides and other teaching material, so painstakingly prepared a few years back. The pressure to keep up to date is very heavy and at times ominous for the teachers, particularly the more senior ones.

From the student's point of view the lecture notes and textbooks of the college days are not only useless but may be dangerous. This is particularly so for treatment by drugs. Time may have proven that what was taught in the college as the most suitable drug has now been shown to have serious long-term side effects or the favored treatment of yesterday has been superseded by better forms of treatment.

Both the teachers and students are faced with the problem of acquiring life long learning habits in order to keep abreast of current developments. Both teachers and students have also to learn how to critically evaluate the new information and decide on what is to be adopted and what needs further evidence.

The following analogy will make the above points clearer. When telephone was introduced in Karachi somewhere in the early 1900's, I guess the number of telephones could not have been more than 50. Anyone wanting to memorise all the numbers could do so. With expansion as the numbers went into thousands the subscribers made a list of the numbers they used most often and this list remained usable for a number of years. In recent years the expansion of the telephone system has been rapid. But, it is not expansion alone. The old numbers are being changed all too often. From five digits they became six and then seven. The mobile numbers are even longer. Instead of depending upon memorisation, or preparing selected lists which become outdated, it is better to devise a system of obtaining the number when you need it. This strategy could be calling up 17 or friends and relatives who may have the new number. The current emphasis of education is therefore on training students how to obtain the latest information and from where. Information which they need for their day to day work.

From the educational point of view these two developments, the accelerated pace of new information and "obsolescence" of existing facts, has diminished the importance of lectures and didactic teacher centered methods to be replaced by more student centered facilitative methods which produce lifelong learners. This is a major paradigm shift.

Since learning is now a life long process, the distinction between undergraduate, postgraduate and continuing education has become more of an administrative rather than educational consideration.

Another paradigm shift.

The emergence of specialties and sub-specialties by virtue of which we are forced to narrow down what we can learn and what we can do. Thus the increasing importance of working as a team. It is not

possible to practice medicine just by yourself. The team with which we need to work is not only other specialists but also paramedical personnel, social scientists and others. It is my feeling that in the present status conscious cultural milieu our senior colleagues will find this to be the hardest change of all.

Increasing knowledge has brought us better understanding of the causes and mechanisms of how diseases are produced. With this better understanding, it has now become possible to design effective prevention against of the many diseases. This includes immunization against common infectious diseases, as well as modifying the life style to promote health and prevent chronic diseases, for example many cancers and heart diseases. The concepts of promotion and prevention are now not just ideal good wishes but firmly based on scientific principles. The word medical care has been broadened to become health care. This is another major paradigm shift.

Throughout history the physician has been known as a healer who saw those who came to him or her. The new paradigm wants us to be responsible for the health of the community as a whole, not just the individuals who seek our help. This shift too has come from the new information about causation of diseases and measures that can be taken to prevent the common illnesses and promote good health. This new knowledge puts the onus of health on the individual and the responsibility of getting his message on to the community is on the physician. Most of us still do not realize that we are now expected to assume this new role, a role which the Alma Ata declaration spelled out so vividly.

Existing knowledge of the causation of diseases, measures that can be taken to prevent the common illnesses and to promote good health puts the onus of health on the individuals. In a way to a large extent, we are all responsible for the diseases we have suffered or are likely to suffer. Starting from the choice of when to conceive, through pregnancy, childhood and adult life we now have the knowledge to prevent most of the common killers. What mothers do and do not do during pregnancy and the first five years of life determines the future health status of the child. The knowledge of what is a healthy life style. the knowledge of what is a healthy environment, all these things are within our control. What is needed is awareness. This is why I believe that Rupee for Rupee money spent on health education particularly for women will have a greater impact on the future health of the nation, than spending on health care facilities alone.

Another paradigm shift is the widening distance between the practice of medicine within the hospitals and that outside the hospitals. Till fifty years or so the practice of medicine inside and outside the hospital was not much different. At the beginning of the last century Surgery was emerging as a major hospital based specialty. At present hospital medicine is focused on the acute or complicated cases. It requires high technology and though the patient is admitted under the supervision of one specialist usually a number of other specialists are called in. Practice outside the hospital requires a physician who can provide a comprehensive care to the individual. Someone who sees the individual over a course of time and provides promotive, preventive, curative as well as rehabilitation services. If the individual needs specialist care or hospitalization then this physician becomes a link between the specialists and the individual. The General Practitioner of today or as it is called Family Medicine is a specialty in its own right and a very important one. The Family Physician is the gate keeper who knowing the individual over a long period is in the best position to decide when a specialist is needed and which one to go to.

Till recently, the best that medical practice could do was provide symptomatic relief and support till the natural process of healing took place. We had insufficient knowledge of the pathogenesis of diseases or the means to offer rational cure. The advent of sulphonamides in 1930's and then antibiotics in the 1940's provided us with the means to treat infectious diseases by eradicating the organisms. The word cure became a more frequently used word. Taking another example, that of Cancer. Previously cancer was considered an incurable disease and the best we could do was talk of the number of years of survival. Now one talks of cure, not for all cancers, but for a growing number of them. This is another paradigm shift that has occurred in the last fifty or sixty years.