

## Making medical decisions

**It is generally accepted that the best and most appropriate medical decisions are reached when the doctor's medical knowledge, skills, and experience are combined with a patient's knowledge, wishes, and values. However many other factors come into play.**

MEDICAL care decisions are made at almost every patient-doctor encounter. Whether or not to have medical care and the nature of the care are decisions that have to be made by the individual, his or her family, or by the attending doctor(s). Some decisions are relatively simple, e.g. having a medical examination. Others are more complex, e.g. having an operation.

Prof Cyril Chantler, in his article in the leading medical journal, *The Lancet*, stated that medical care "used to be simple, ineffective, and relatively safe; now, it is complex, effective, and potentially dangerous." (*The Role and Education of Doctors in the delivery of Healthcare, The Lancet, 3 April 1999; 353 [9159]: 1178-81*)

Whenever decisions have to be made about medical care, it is most effective when patients and doctors work together. It is generally accepted that the best and most appropriate decisions are reached when the doctor's medical knowledge, skills, and experience are combined with the person's knowledge, wishes, and values. However, there are many factors that affect the making of medical decisions.



Where previously a patient had to deal with a single doctor, today he may have to deal with other doctors, nurses, allied healthcare professionals, and even accountants and administrators. – Reuters

### Sources of information

The practice of medicine is a science and an art. The scientific advances in the past half century have been exponential, leading to better understanding and management of many conditions and diseases.

There are three main types of studies that are of help in the making of medical decisions. They are randomised controlled trials, systematic reviews, and observational studies.

Randomised controlled trials (RCTs) involve patients being randomly assigned to have either the investigation or treatment being tested or a dummy one. Random really means random, i.e. it is like tossing a coin – patients with heads go into one group and those with tails go into another group. By randomly assigning people to different groups, the problem of bias or chance is reduced.

RCTs are used to answer questions, e.g. should men above a certain age be screened for prostate cancer. Neither patients nor researchers know what group the patients are in. This process, which is called “blinding”, reduces the expectations people may have of the results of a study. This is important because if either patients or doctors expect a certain result, that result is more likely to occur or to be recorded.

For example, people given pills that do not contain any active ingredient also report benefits or harms. This is also known as the placebo or nocebo effect. RCTs are considered the most accurate type of study.

A systematic review analyses the results from all the good quality RCTs on a particular subject. The results of the individual RCTs are pooled into one summary that provides an estimate of the risks and benefits of an investigation or treatment.

These reviews sometimes include a statistical analysis, called meta-analysis, which adds up the results of several RCTs. The Cochrane Collaboration is an international organisation that produces some of the highest quality systematic reviews. However, systematic reviews are not foolproof. Their quality is only as good as the quality of the RCTs included in the review.



Which are the real tablets? Randomised controlled trials involve patients being randomly given the treatment being tested or a placebo

Observational studies may be the best option in certain situations, e.g. when it is unethical to carry out certain studies because of the risk of harm to patients as in pregnancy or the withholding of certain treatments in emergency situations. In addition, large RCTs involve time and money.

Observational studies are studies in which groups of people are observed instead of having anything done to them. Although these studies are cheaper and faster than RCTs, they are less reliable in that they cannot show cause and effect. This means that observational studies cannot prove that something caused something else.

There are also numerous occasions when treatment decisions are made without the benefit of studies. Research may not have been done because certain conditions have been treated in a manner that works, e.g. treatment of fractures. When a bone is broken, it is either put in a plaster cast or surgery is done. The latter involves holding the broken parts of the bone with wires, plates, nails, etc. However, there is insufficient strong evidence that surgery is a better choice.

### **Doctors' perspectives**

Doctors' knowledge and skills are dependent on their medical education, which starts with undergraduate and subsequently, postgraduate and continuing medical education, as well as their own experiences. Most doctors are continually learning about the diagnosis and treatment of patients during their training, from fellow doctors, and from their own experiences.

They also read medical books and journals, discuss and consult other doctors, who may be general practitioners or specialists. This enables the medical profession to keep abreast of new knowledge from research and its applications in the management of patients' medical problems. The advent of the Internet, with numerous authoritative websites, has facilitated this process.

After taking the patient's history and performing a physical examination, the doctor would usually have formed a provisional diagnosis. Laboratory and/or imaging investigations may be ordered to confirm the diagnosis, measure the severity, or stage of the condition or disease and/or monitor the progression of the condition or disease, particularly its response to treatment. Tests are also performed to screen for conditions or diseases.

As a patient's history contributes 60 to 80% of the information needed to make a diagnosis, it is worthwhile doing it well. Furthermore, it establishes and strengthens the patient-doctor relationship.

The results of a patient's investigations have to be interpreted by doctors as they are trained to do so. There are no perfect investigations. Sometimes, there are normal results in people who have the condition or disease being tested for (false-negative results).

There may also be abnormal results in people who do not have the condition or disease being tested for (false-positive results).

As such, an important feature of an investigation is its sensitivity (the likelihood that it will produce abnormal results in people with the condition or disease being tested for) and its specificity (the likelihood that it will produce normal results in people without that condition or disease).

Another consideration of an investigation is its reliability. A reliable investigation gives reproducible results, i.e. it gives the same result irrespective of the number of times a patient undergoes the investigation, unless there has been improvement or worsening of the condition or disease. The results from a less reliable test may change randomly.

The doctor would then propose treatment to the patient. There are many occasions when reassurance is all that is needed. There are also situations when there is more than one treatment available. That is why a patient's values and expectations of the treatment, and even life itself, are important.

Sometimes the treatment can be complex, e.g. prostate cancer, where treatment options include surgery, radiotherapy, or no treatment. There are also different types of surgery available. There may not be a right answer but it is important that the decision is made after understanding and considering the benefits and risks of each treatment option.

In short, what the doctor does is apply the scientific basis of medicine to the individual patient. That is the reason for the statement that medicine is a science and an art.

### **Patients' perspectives**

Everyone has beliefs, values, preferences, and health knowledge, all of which are dependent on one's culture, upbringing, religion, education, and peers. They impact on a patient's concept of his or her role and that of the doctor, expectations of the consultation and compliance with advice, tests and treatment.

The consultation that a patient has with a doctor is often emotionally charged. It is often frightening to have to deal with illness itself and this is often exacerbated by the various navigations through the healthcare system.

Where previously a patient had to deal with a single doctor, today a patient may have to deal with other doctors, nurses, allied healthcare professionals, and even accountants and administrators! This affects patients' attitudes to their illness, their engagement with the healthcare system, their compliance with treatment(s), and their health outcomes.

Patients usually depend on their doctors for health information. Many of the information resources used by doctors are available to patients. These resources are available in print and on the Internet. The challenge is to select and then understand the information that is applicable to an individual.

According to Roter and Hall, the single most influential predictor of patient satisfaction is the amount of jargon-free information. Information that is appropriately delivered in a timely manner helps patients cope with the uncertainty of illness and their participation in its management.

### **Family and friends' perspectives**

When a person is ill, family members and friends may offer their advice and experiences. Some may even recommend the treatment. What is said may exert an influence on a patient's decisions.

It is important to remember that every patient's experience may differ from that of another patient with the same condition or disease. This is because all of us are individuals and as such, are different from our family members and friends. Even twins differ from each other – the only exception is identical twins.

Although textbooks and journals describe conditions and diseases in terms of what is common between those who have the condition or disease, the experience of each person's illness is unique. To make medical decisions mainly on the basis of family and friends' information is not only inadvisable but may lead to untoward consequences.

### **Media perspectives**

There are many articles on health conditions and diseases in the print and electronic media. It is not uncommon to find reports on the results of just one study. Sometimes, selected findings from the study may be highlighted. There may have been other studies with different results but the reporter or editor may be unaware of these studies.

One should remember the results of a single study do not tell the whole story. They just add more information to a body of evidence. It is only after several studies conducted by different researchers who report the same results that doctors can rely on the conclusions made.

Some media articles do not provide perspective but instead highlight, and sometimes sensationalise, certain aspects of health conditions and diseases. This may lead to misconceptions, unrealistic expectations and, sometimes, complaints and litigation.

### **Reality**

There are two tasks that must be done prior to making a decision about diagnosis or treatment. The first task is to decide which information resources are most appropriate; the second is to apply the information to the individual patient's circumstances.

There are several challenges to these two tasks. One major challenge is time. Although many decisions have to be made rapidly, there may be insufficient time for the collection and evaluation of all the information available.

The other major challenge is the quality of information, which has to be considered by doctors and patients. Not all the information in books, journals, websites, etc is accurate. Other information may be accurate but only apply to certain people only. It is not uncommon that the doctor's experience is most applicable, particularly when the patient has a regular doctor.

Prior to recommending a course of action, the potential benefit has to be balanced against the potential risk of harm. Benefits decrease the likelihood of an event that a person wants to avoid. It may decrease symptoms, improve bodily function, and at times, cure illness or reduce the possibility of complications.

Risk refers to the likelihood that a harmful outcome will occur. When addressing the risk of harm, one should assess both absolute and relative risks. Both the numerator and denominator have to be taken into account.

For example, contrasting a 100% improvement against 10% of harm makes treatment appear to be the option of choice. However, the same numbers can also mean that treatment benefited 20 out of 1,000 people but harmed 100. When stated this way, the treatment option is not attractive.

Although the balancing of potential benefits against potential risks of harm usually applies to treatment, they also apply to some diagnostic procedures, e.g. a CT scan involves radiation exposure that is generally much larger than that of conventional X-rays, with the main risk being the small possibility of developing a radiation-induced cancer some time later in life.

When there is a medical need, the benefit of a CT scan normally exceeds the small cancer risk. However, a CT scan is unlikely to detect serious disease in a person who has no symptoms, and the potential harm may be greater than the potential benefit.

The choice of the statistics used in decision-making is crucial. Scientific studies only provide information about the average risk of benefit and harm. It does not inform doctors how an individual will respond. As such, many studies attempt to define the people characteristics, e.g. age or gender, that can better identify those more likely to benefit from a treatment or be harmed by it.

Patients and doctors may not have the same perceptions of risk, e.g. an individual who is informed about a possible serious side effect may be very concerned, even if it is rare. However, the doctor may not be just as concerned.

The balance between the risk of a condition or disease and its treatment is often not precise. A doctor may judge the risks and benefits of a treatment differently from the patient to be treated. When risks are understood by patients, they can make more informed choices on the treatment options proposed by the doctor.

It is important to remember that if the condition or disease is mild, doctors do not usually recommend treatments that may cause serious side effects. However, if it is serious, but cure is possible, potential side effects may be worth taking the risk.

### **Participating in medical decisions**

Most ill people today would want to be part of the medical decision making process. In order to do so effectively, they need to, ideally, work closely with their doctors.

There are several important considerations to bear in mind, viz:

- A patient's beliefs, values, and preferences matter.
- Notwithstanding the advances in medicine, there are many unknowns and uncertainties in healthcare.
- No one can say what treatment is best for an individual.
- Sometimes, no one knows what treatment is best for a condition or disease.
- The easiest solution may not always be the safest. In other situations, the easiest may be the best choice for an individual.
- One has to work with the doctor(s) to determine the treatment that is best for oneself.

·One should feel free about asking one's doctor questions about the diagnosis and treatment(s) for one's condition or disease. Always ask about, and discuss, the benefits and the risks.

·It may be helpful to write down questions prior to consulting the doctor and/or to bring along a relative or friend.

·Decision aids may be helpful.

·Another doctor(s) may be consulted for additional opinion(s). If the opinions concur, it is unlikely that one is on the wrong track.

·There should be clarity and precision when making known one's preferences and/or choices to the doctor(s). This is especially so in those who have conditions or diseases, e.g. terminal illness, which may make it impossible to express their wishes later on.

·If one decides to undergo a treatment or procedure, ask the doctor about the risks involved and learn how to reduce them.

*Dr Milton Lum is a member of the board of Medical Defence Malaysia. This article is not intended to replace, dictate or define evaluation by a qualified doctor. The views expressed do not represent that of any organization the writer is associated with.*