

Strategies to help patients understand risks

John Paling

Explaining risks to patients in an effective way is an essential part of ensuring that consent is “informed.” A consultant in risk communication discusses the strategies that can help doctors to communicate risks clearly, and thereby also build closer relationships with their patients

Effective risk communication is the basis for informed patient consent for medical treatment, yet until recently doctors have lagged behind other professionals in learning this skill. In other industries where risks have to be conveyed to the public (such as chemical, nuclear, water, and food industries) usually only a few people carry out this task on behalf of their organisations and they are specially trained. In contrast, in health care (where the risks are usually far higher and more uncertain and complex) almost every doctor who interacts with patients has to communicate information on risk, yet few have any training.

Specific strategies can help to remedy this deficiency and improve patients’ understanding of risks. Doctors can now choose from a “toolbox” of simple, practical, time efficient techniques that benefit the widest possible variety of patients.

Methods

I have taught risk communication in risk prone professions outside medicine for over a decade.¹ More recently, I have adapted my materials to respond to the needs of doctors and genetic counsellors.² I continually review both the literature about risk communication and web based discussion groups, and this practice has informed this article.

I suggest here a set of strategies that doctors can use immediately to become more effective in helping patients to understand risks. Using visual aids also helps to foster good doctor-patient partnerships. The suggestions that follow are not a recipe of essential steps but rather a toolbox of techniques which, depending on the circumstances, can help to improve doctors’ ability to communicate risk effectively.

The challenges for doctors

Communicating risk is not simple. Many different dimensions and inherent uncertainties need to be taken into account. Recent findings on the perception of risks and benefits from a psychological perspective further complicate the task. For example, Lloyd and colleagues have suggested that patients just extract the gist of any information—not the detail—to make decisions.³

Furthermore, most patients’ assessment of risks is primarily determined not by facts but by emotions.⁴ Thus, although most doctors can readily provide a competent account of the biomedical data relating to a particular risk, this alone is likely to be sterile. If the patient’s feelings skew an understanding of the facts, then his or her ability to make objective decisions about clinical management will be impaired.

For this reason, the most powerful precursor for effective risk communication is for the doctor to strive

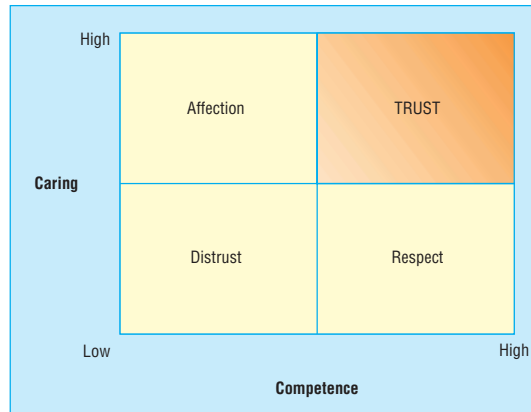


Fig 1 Competence and caring in relation to building trust. Adapted from Spence⁶

to display both competence and a caring approach.⁵ The doctor should therefore wish to discuss risks in a context that would enable the patient to have the best chance of understanding those risks (fig 1).⁶

Trade-offs of risks and benefits

It is prudent to remind patients that virtually all treatments are inevitably associated with some risk of possible harm. This not only reflects the truth but also helps to counteract the tendency of some patients to expect totally risk-free medicine. It also enables the doctor to

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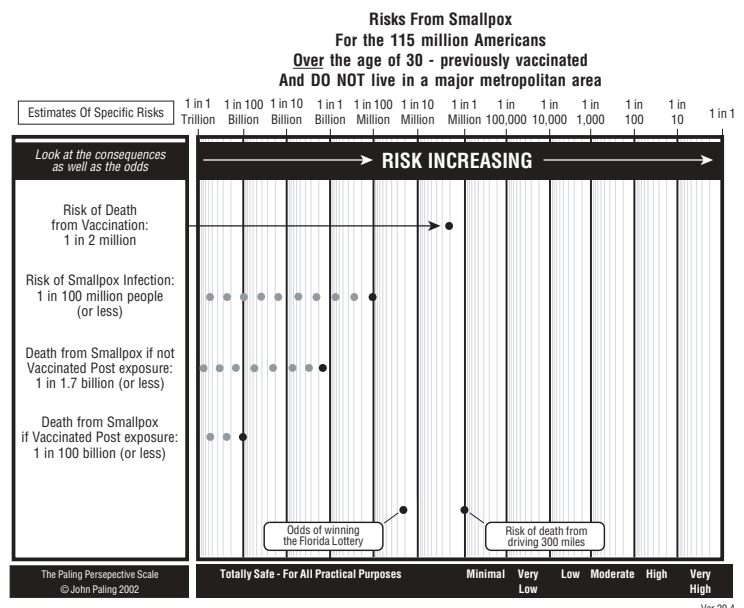


Fig 2 Paling Perspective Scale[®] —for giving perspective to risks of low order of probability.¹⁶ From research report by Small P et al¹⁷

reassure the patient that all medical staff will do their best for the patient whatever treatment is chosen.

How to communicate the numbers

As well as empathising with the emotions of the patient, doctors are responsible for quoting estimates for the possible outcomes on the basis of previous cases. Often they do this by simply describing a possible treatment then telling the patient about the most likely associated risks on the basis of some unspecified population. Several simple techniques, however, can improve the way you communicate numbers.

Avoid using descriptive terms only

Avoid explaining risks in purely descriptive terms (such as “low risk”). Instead, elaborate by providing estimated numbers. Abundant evidence exists that descriptive terms reflect the speaker’s perspective, with the patient often understanding the risks to be of a totally different order of magnitude.⁷

Use standardised vocabulary

Discuss with colleagues at a local and national level the use of a standardised vocabulary of descriptive words that consistently relate to approximate levels of probability so that miscommunication is reduced.⁸ The European Union’s suggestions for a standardised vocabulary (“very common,” “common,” “uncommon,” “rare,” and “very rare”), however, do not communicate risk effectively: patients’ interpretations of these terms do not seem to correlate with the probabilities that they were intended to convey. Different countries also probably bring different shades of meaning to various descriptions.⁹

Use consistent denominator

Express the odds of possible outcomes with a consistent denominator—for example, 40 out of 1000 and 5 out of 1000, rather than 1 in 25 and 1 in 200. If different denominators are used, many patients mistake which is the greater risk.¹⁰ Some may think that 1 in 200 is a bigger risk than 1 in 25, presumably because the number is larger. Using a common denominator is just as accurate and communicates just as well to people of all educational levels.

Offer positive and negative outcomes

Never present only the negative perspective (or “frame”). Ideally offer outcomes in both positive and negative forms—for example, chances of survival and of death, or chance of side effects and of remaining free of side effects. A choice expressed as offering a “97 out of 100 chance of being cured” is psychologically more acceptable than a “3 out of 100 chance of dying.” In situations where the patient’s attitude is especially important in the healing process, reinforce the placebo effect by presenting the odds in a positive manner.¹¹ However, honesty (including presenting outcomes in both positive and negative forms) is more likely to foster mature and resilient doctor-patient partnerships.

Use absolute numbers

Whenever possible, use absolute numbers—not relative risks. Patients can easily misinterpret statements such as “three times as many people were cured with approach A as with approach B.”¹² These issues are described further in the accompanying paper by Gigerenzer and Edwards (pp 741-4).¹³

Use visual aids for probabilities

Use appropriate visual aids to help patients from all backgrounds to understand your explanations.¹⁴ Even in developed countries substantial numbers of patients have poor numeracy or literacy skills and are likely to have difficulty understanding the meaning of the numbers that doctors wish to share. For these people, visual aids can help by showing the numbers in perspective. The pie chart (pioneered by Florence Nightingale¹⁵) is a prime example of a simple yet effective visual aid, helpful to people at all academic levels.

I have developed several tools for helping to explain the risks of different orders of likelihood (figs 2-4).

Ensure that consent is “informed”

For many patients, truly “informed” consent (or indeed “dissent”) is difficult to achieve without visual aids. Professionals in communications do not consider information and data to be the same. Information is considered to be data (facts) presented in a context that allows them to be meaningful to the listener. Unless

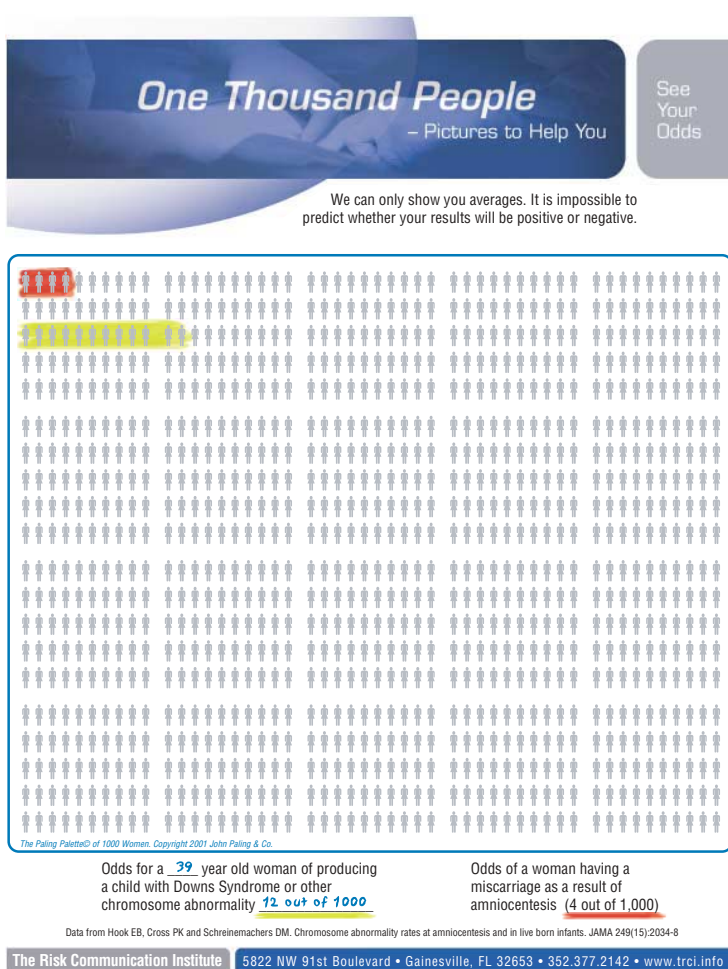


Fig 3 Paling Palette® —for displaying most medical risks with a probability of higher than 1 in 1000.¹⁶ The doctor or genetic counsellor fills in the relevant data while sitting beside the patient. This format shows the estimates of positive and negative outcomes simultaneously and presents unambiguous visual representations of the probabilities. The patient may take a printout home for further consideration, or the form may be signed by the patient and a copy kept on file

probability data are expressed in some meaningful context, a case could be made that, for less educated patients, so called informed consent or dissent is often not informed at all. Good visual aids can help the viewer to see the risk numbers in context, thus providing information and not just data.

Use visual aids to build partnership

When simple visual communication tools are shared between doctor and patient, they offer an opportunity to deepen the bond between them. The closer the doctor-patient partnership, the more likely the patient is to be satisfied. Malpractice claims are also less likely; when primary care physicians with no malpractice claims against them were compared with those who had been the subject of such claims, distinct differences were found in style of communication. Statements about what to expect, enabling discussion to take place, and taking time to explore the human dimensions were all seen as teachable behaviours associated with fewer malpractice claims.¹⁸

Strategies to discuss and elicit responses

Recent meta-analyses have highlighted the fact that women doctors in general are better than men at encouraging patients to talk more freely.¹⁹ This does not mean that men are irretrievably impeded by their gender from gaining high scores in eliciting responses from patients. Indeed, in gynaecology, where there is usually a strong preference among patients for women doctors, the men were at least equal to (and often better than) the women in all aspects of their conversational style. Thus adjustments of conversational style seem to be possible with motivation and training.

Summary points

The way doctors communicate risk can affect a patient's perception of risks

Supplement verbal explanations with numerical data

Use absolute numbers; do not use relative risks or percentage improvements

State the odds from a positive and negative perspective and use a consistent denominator

Use visual aids wherever possible, to maximise understanding

Use of simple visual aids can also improve the doctor-patient relationship

Make sure the patient's informed consent is based on information—not just data

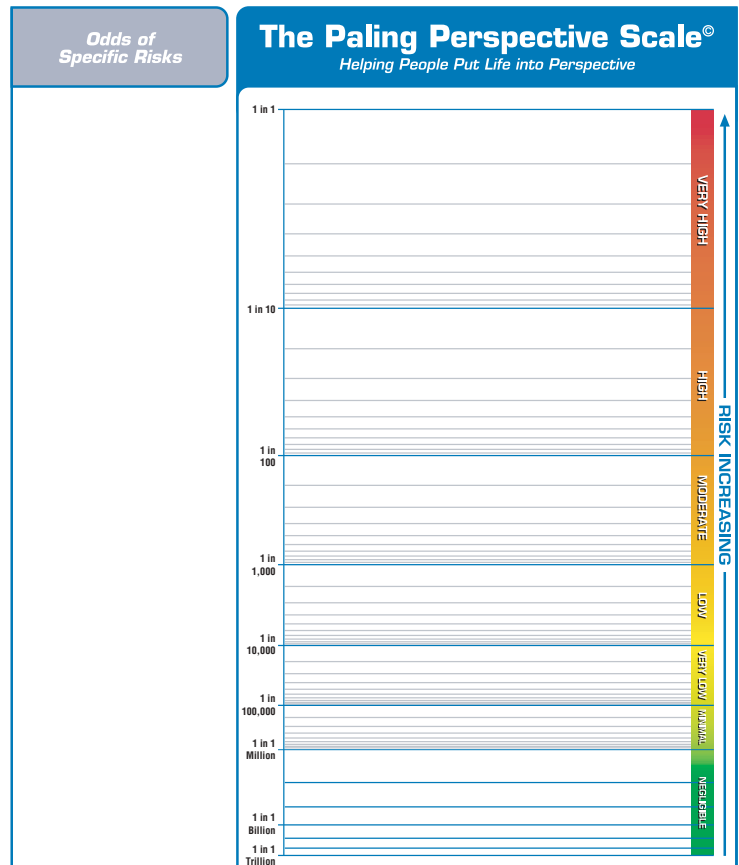


Fig 4 Revised Paling Perspective Scale[®]—for displaying risks covering widely different orders of magnitude¹⁶

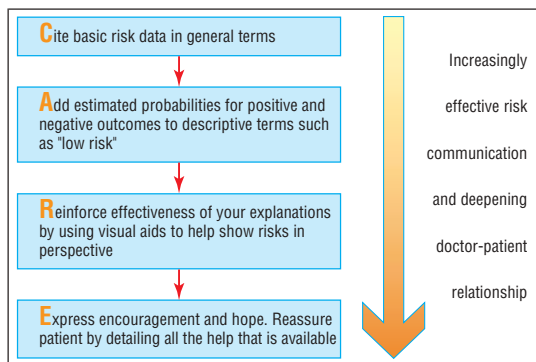
Future of risk communication in health care

Effective risk communication can improve the quality of health care in all countries and all disciplines. Three important developments are needed in this area.

Firstly, doctors need more training in communicating risk to patients.²⁰ The motivation for this may be stimulated by the potential for improving doctor-patient partnerships (and in some countries, such as the United States, for lowering the risk of malpractice suits).

Secondly, more research is needed on how different strategies, particularly use of visual aids, help patients to understand risk. Similar studies have already assessed analogous visual tools such as the Wong-Baker FACES pain rating scale—widely used to help patients communicate their level of pain.²¹

Thirdly, research should assess further how differences in culture, age, and gender affect patients' perception of risks. Few studies have examined how different groups respond to risks of any kind, and no studies seem to have investigated which approaches are the most effective for communicating medical risks to different populations. Since the time of Aristotle it has been recognised that there are different "possible ways of persuading people about any subject,"²² and this is probably the case with different cultures. Given



Making risk communication more effective

the many diverse circumstances in which medicine is practised throughout the world, it is important always to be empathetic to the individual situation of each patient. By adopting a set of simple and practical strategies, doctors should be better able to convey information on risk to their patients.

Competing interest: JP earns his living from teaching about and consulting on risk communication with doctors and genetic counsellors.

- 1 Paling J. *Up to your armpits in alligators? How to sort to what risks are worth worrying about*. Gainesville, FL: Risk Communication and Environmental Institute, 1997.
- 2 Stalling P. New tool for presenting risk in obstetrics and gynecology. *Obstet Gynecol* 2001;98:345-9.
- 3 Lloyd A, Hayes P, Bell RF, Naylor AR. The role of risk and benefit perception in informed consent for surgery. *Med Decis Making* 2001;21:141-9.

- 4 Ropeik D, Clay G. *Risk! A practical guide for deciding what's really safe and what's really dangerous in the world around you*. New York: N Y Houghton Mifflin, 2002.
- 5 Bennett P. Understanding responses to risk: some basic findings. In: Bennett P, Calman K. *Risk communication and public health*. Oxford: Oxford Medical Publications, 1999:3-19.
- 6 Spence J. *Excellence by design: leadership*. Gainesville, FL: Adbiz Publishers, 2003.
- 7 Merz JF, Druzdel MS, Mazur DJ. Verbal expressions of probability in informed consent litigation. *Med Decis Making* 1991;11:273-81.
- 8 Calman KC. Cancer: science and society and the communication of risk. *BMJ* 1996;313:799-802.
- 9 Berry DC, Raynor DK, Knapp P, Bersellini E. Patients' understanding of risk associated with medication use: impact of European Commission guidelines and other risk scales. *Drug Safety* 2003;26:1-11.
- 10 Grimes DA, Snively GR. Patients' understanding of medical risks: implications for genetic counseling. *Obstet Gynecol* 1999;93:910-4.
- 11 McNeil BJ, Pauker SG, Sox HC, Tversky A. On the elicitation for alternative therapies. *N Engl J Med* 1982;306:1259-62.
- 12 Malenka DJ, Baron JA, Johanson S, Warenberger J, Ross JM. The framing effect of relative and absolute risk. *J Gen Intern Med* 1997;8:543-8.
- 13 Gigerenzer G, Edwards A. Simple tools for understanding risks: from numeracy to insight. *BMJ* 2003;327:741-4.
- 14 Edwards A, Elwyn G, Mulley A. Explaining risks: turning numerical data into meaningful pictures. *BMJ* 2002;324:827-30.
- 15 Nightingale F. *Notes on matters affecting the health, efficiency, and hospital administration of the British army, founded chiefly on the experience of the late war*. London: Harrison and Sons, 1858.
- 16 Paling J. *Medics are from Mars and patients are from Pluto: how to help patients understand risks*. Gainesville, FL: Risk Communication Institute (in press).
- 17 Small PA, Paling J. Communicating risks associated with a possible smallpox attack. <http://ccl.ichp.edu/smallpox/> (accessed 10 September 2003).
- 18 Levinson W, Roter DL, Mullooly JP, Dull VT, Frankel RM. Physician-patient communication: the relationship with malpractice claims among primary care physicians and surgeons. *JAMA* 1997;277:553-9.
- 19 Roter DL, Hall JA, Aoki Y. Physician gender effects in medical communication. A meta-analytic review. *JAMA* 2002;288:756-64.
- 20 Edwards A, Mathews E, Pill R, Bloor M. Communicating about risk: diversity among primary care professionals. *Fam Pract* 1998;15:296-300.
- 21 Wong DL, Baker CM. Pain in children: comparison of assessment scales. *Pediatr Nursing* 1988;141:9-17.
- 22 Aristotle. *Rhetoric*. (Quoted in Ross D. *Aristotle*. 5th ed. New York: Methuen, 1964.)

From cardiac anaesthetist to humanist officiant

My interest in non-religious funerals dates back to the death of my father. I was working abroad when he died; by the time I returned, things were cut and dried, and the funeral director had already engaged a local minister. The resulting service seemed a travesty, not only because we weren't a religious family, but also because the ceremony itself seemed in no way to recognise my father as an individual. There was scarcely any mention of his achievements, his love of his family, his principles, or the things he believed in, such as social justice. My mother and I left the crematorium feeling short changed.

My mother told me later that she did not want a religious funeral when she died. And so I approached the British Humanist Association and obtained their booklet *Funerals without God*. Eventually I became accredited to conduct humanist funerals, an activity that has become an important part of my life since I retired from my NHS post as a cardiac anaesthetist.

Humanists are atheists who believe it is possible to have morality without religion. Religion is rejected on the grounds that there simply isn't enough evidence for belief in a caring, loving God who created the universe and who answers our prayers. Thus the humanist takes an "evidence based" or scientific view of the world, as opposed to a belief based one.

After conducting a few funerals, it struck me that there was a similarity between visiting bereaved families in order to gather information to use in a ceremony and visiting cardiac surgery patients and their families at the bedside preoperatively. This is not primarily because the cardiac surgery patient knows there is some risk of not surviving, but rather because there is an immense need for trust. The patient and

family are usually very pleased to have a consultant visit at the bedside, especially if he or she gives the impression of having time to stay and answer a few questions. They will already have seen the surgeon, but that could have been months ago. They often pin their faith on this new visitor, in whom they very much need to have confidence. This new doctor, they want to believe, will look after dad. It feels much the same making a visit before a funeral. I often, especially in close knit families, feel the family reaching out to me, relying on me, implying "we trust you totally to do the right thing for dad." And just as an anaesthetist takes a pride in delivering a patient in good condition to the recovery ward, as a humanist officiant, I take a great pride giving the bereaved family the help and support they need at a difficult time to mourn their loved one.

Since I don't conduct religious ceremonies, I have no control group with which to compare, but I have a feeling that non-religious funerals are often requested by truly remarkable people, who have led unusually full lives, sometimes exemplary ones. They have often been close to their families and are dreadfully missed. They are often noted for their willingness to help others, and have been active in educating their children to be rounded individuals. They are inventors and innovators. One man at whose funeral I officiated, an engineer by profession, had noted haematuria during a long distance flight he made in his 70s. On returning home, he made a microscope slide of a drop of urine, thought he saw some abnormal cells, and showed them to his doctor. The patient was right: he had diagnosed his own bladder cancer.

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