Chaos Based Medicine (CBM)

Chris Ellis

You have heard of Evidence Based Medicine (EBM) in which you make remarkable diagnoses and decisions based on real evidence and random controlled trials. Now I want to introduce you to Chaos Based Medicine (CBM) on which I run my practice. It starts in the morning by my trying to get through the chaos of the traffic on Boshoff street and find parking near the clinic. Whatever happened to my parking space? While I was on the golf course the world seems to have run out of parking space. They are still producing thousands of cars coming off the production lines every minute but no one has told them that there is nowhere to park them any longer.

Anyway after the chaos of the traffic comes my appointment list. My first patient's immune system will have crashed with multiple systems involvement. I will have to make some hard decisions both individually and collectively based on the resources available including financial, social, transportation and based on who and what is working or not working on that particular day.

My Chaos Based Medicine has now been under investigation. There have been some interesting reports in recent years from some people called decision analysts. They are the chaps who come in and observe our performance and work out how we come to the decisions that we make. They first went to specialists such as surgeons and internists. They did not have much trouble working out how they thought in a linear progression with lots of guidelines and algorithms and cause and effect reasoning.

The decision and clinical reasoning analysts then went off to observe us general practitioners. They were surprised to find that they could not work out what the dickens was going on in general practice. How were the general practitioners making their decisions and diagnoses? They could not figure out our reasoning processes or how we came to prioritize our theories or how we chose our interventions. How, they asked, can we go from undifferentiated symptoms and histories to some form of coherent assessment? What labyrinthine pathways did we use? Well, interestingly enough, we could not tell them. We had learnt to think by necessity and had not fully thought out or articulated how we did it.

But how, they asked, did we move from the general to the specific and from the abstract to the concrete? Well, we said, that we did not know that either but that specificity and differentiation were not necessarily the outcomes we were looking for as goals.

So they went back and observed us again and found a mixture of pathways and patterns that generalists use to sort out the competing data, choices and resources.

They found that we were sifting chaos through a strainer using perceptual filters. This involves juggling several major influences on our decisions. These are the clinical disease itself, what is on the formulary code, what the medical aid will pay for, what level of mutual agreement the patient and I can come to, the logistics of transport and referral, more vague peripheral financial aspects, the patient's home and family circumstances, his or her boss at work and the sick certificate, oh yes and "can you give me a prescription for my mother, doctor?". In the background vaguely hovering deep in the fissures of my cortex are minor effects on my decision process such as the patient's age, sex, blood pressure, mood, attitude, renal function, likeability, allergies and social status.

These influences can change, in a nanosecond, as new evidence (remove "or data") emerges from the history. Minor influences can become major. Major influences can lose their power and weight depending on the context or the loss of a resource.

After all this the analysts have to work out what is getting through our perceptual filters. So what is a perceptual filter, I hear you cry? Well, they contain your entire education as well as the sum of all your encounters with patients. Add to this your past experiences with this particular disease and all your past experiences with this particular patient. You can throw in how you are feeling on that particular day, if you want to, as well. Now mix this up with the knowledge you have of the place and cultures that you work with and you have really more than you ever wanted to know about thought processes.

These perceptual filters seem to work by accepting contextually appropriate and culturally acceptable information and discarding other data in a sort of heuristic free fall. They then select or chose a couple of treatment possibilities or interventions by isolating them from the final selection.

So all we actually do is integrate logical linear thinking with pattern recognition, heuristic free falls, experental recall and psychosocioeconomic data and put this through levels of perceptual filters. Dead simple really.

Written by Chris Ellis, a family physician from KwaZulu/Natal, South Africa.

Correspondence to:
Dr Chris Ellis,
e-mail: cristobalellis@gmail.com