

Conceptual leaps in family medicine: Are there more to come?

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Abstract

This is the edited version of the inaugural Wesley E Fabb oration which was given in Kuala Lumpur Malaysia, on the 31st of March 2002 as part of the opening ceremony of the Wonca Asia Pacific Regional Conference. This oration is in recognition of Professor Fabb's long and dedicated association with both general practice and Wonca. Although currently retired, he continues to serve both entities as Wonca's webmaster.

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I can still vividly recall the excitement I felt, in the 1960's, on first reading Benjamin Bloom's book: *A Taxonomy of Educational Objectives – The Cognitive Domain*.¹ You'll think it curious that a rural family doctor could become so turned-on by a book that classified knowledge into six hierarchical categories. Yet that book held one of the central conceptual keys to education.

So this is my starting point for the conceptual journey on which I invite you to accompany me today. Robert Stetson Shaw said: '*You don't see something until you have the right metaphor to let you perceive it.*' What I want to do is to highlight some of the metaphors that have given us insights that have revolutionized our discipline.

Medicine has been practised since prehistoric times. Its history has been punctuated by events that have changed radically the thinking of the time – Koch's discovery of the tubercle bacillus, the removal of the handle of the Broad Street pump that brought to an end London's cholera epidemic, the discovery and purification of penicillin, and the development of drugs effective in mental illness are just a few among thousands of pivotal events. In family medicine there have been similar historic events that have defined and changed the course of our discipline. For me, Bloom's contribution was the first.

A lack of general practice training

In the 1960's specific training for general practice did not exist, although many of us voluntarily undertook several years of hospital training to prepare ourselves. But to our dismay, all this training did not equip us for so many of the problems we encountered, some of which we had never seen before.

I can remember being mystified by my first case of pityriasis rosea, which I had to refer to a dermatologist, only to be embarrassed by the simple diagnosis he made. Even worse, there were many psychosocial problems of which we were blithely unaware. They went unrecognized and untreated. Our patients were very patient with us.

General practice was seen as simply a mix of bits of the specialist disciplines, and the easiest bits at that, a sort of medical fruit salad. There was no understanding that what characterized general practice was our approach to patients and their problems, and that this attribute was the one that defined us more than the medical content of our work. The prevailing culture was that those who could not get into specialist ranks went into general practice – an 'easy street', from which you referred all the difficult problems to specialists. Then came a counterculture that was to quietly revolutionize our discipline.

The counterculture

At that time the Royal Australian College of General Practitioners (RACGP), like several senior colleges around the world, was preparing itself for the task

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ahead – to replace self-training with formal education and assessment of general practitioners. By the mid-1960's that doyen of medical education in Australia and Wonca's first president, Monty Kent Hughes – my father in medicine – had already put together a syllabus for training. He was also exploring educational concepts from the University of Illinois developed by George Miller and Christine McGuire, both doyens of medical education in the USA. Their studies of medical examinations had shown that about 85% of questions required only recall of isolated bits of factual information, about 10% required understanding, and only 5% required higher levels of thinking. Most tests explored only the lower orders of the cognitive domain and there were no tests of skills, attitudes or values. Realizing that medical examinations were failing to test the really important aspects of medical practice, they developed a series of new tests, which included the multichoice, patient management problems, and diagnostic and management interviews, which we devoured voraciously, adapting them to our needs.

Seminal event for medical education

The process came to a head at a pivotal event in the RACGP's history – the so-called Geigy Teaching Seminar in Melbourne in 1966, at which about 50 College members met to discuss medical education and a College examination. Because we were acutely conscious of our ignorance of educational issues, we invited six educators from the Victorian Department of Education and one remained our educational consultant for several years. That seminar radically changed our thinking and opened the floodgates of activity. A group was formed to develop a College examination built on Bloom's work, and the work on assessment coming out of Illinois.

These were heady days, full of educational adventure and virtually free of politics. The outcome was the first College examination in 1967, a closed event for a handful of selected candidates. The next year, 300 candidates presented for the first open examination. The rest is history – the RACGP examination has gone from strength to strength and has been reviewed and revised repeatedly. Its process and content was introduced to the Singapore College in the early 1970's, to the Malaysian College in the late 1970's and to the Hong Kong College in the 1980's. The RACGP still has a joint examination with the latter two colleges.

The 3-D model that underpinned these examinations was central to their success. On one axis was the behaviors being tested – attitudes, skills and knowledge; on the second, the clinical competencies being assessed; and on the third, the areas of medicine to be covered. Figure 1 clearly shows three dimensions.²

This proved to be a very sound model. It made

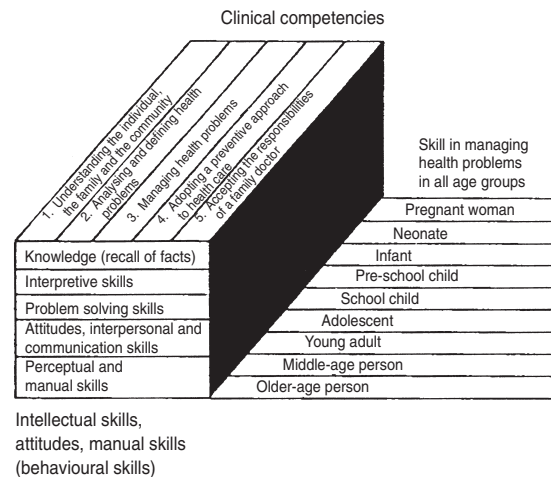


Figure 1. The three dimensions of general family practice (adapted from the Royal Australian College of General Practitioners).

examination construction logical and valid, and the wide range of tests we used gave the examination both the validity and reliability any good examination needs.

The advent of an examination that assessed competence in general practice began the discipline's academic journey. This was noticed. Specialist colleges observed our progress and sometimes expressed concern about this emerging counterculture, one that would make general practitioners more proficient, less likely to refer. When we began to use the term 'family physician', the physicians, the internists, objected. We seemed to be usurping their position.

Training programs begin

The next major leap forward came when training programs began around the world. In 1973 the Australian Government granted the RACGP 1 million Australian dollars to begin a training program, which we named the Family Medicine Program (FMP), and subsequently that support increased commensurate with the increasing numbers in training, which at one stage reached 2500.

When FMP began, there was a pressing need to train hundreds of teachers. So we delved into the secular literature on education looking for guidance. As a medical educator, I can remember the excitement of discovering there the basic concepts of educational practice. Particularly, I remember Ausubel's profound dictum: 'If I had to reduce the whole of educational psychology to just one sentence, it would be: "Ascertain what the learner already knows, and teach accordingly"'. Then there was Gagne's concept of edu-

cational design that made the preparation of educational programs logical and satisfying. So we used these principles and concepts to put together a teacher training manual that later became *Focus on Learning in Family Practice* published in 1976 and sold widely in Australia and overseas. The Society of Teachers of Family Medicine has been its best outlet, and although now out of print, much of its content is still as useful today as it was then. The Society of Teachers of Family Medicine (STFM) has honoured it by giving it 'Classic Book' status.

Clinical problem solving revealed

In that book there were chapters devoted to clinical problem solving. Whereas we had always been told as students that diagnosis was a process that occurred only after taking a so-called complete history, doing a full physical and undertaking investigations, studies by educators in the 1960's and 1970's showed that this was not the way doctors solved clinical problems. Their research showed that within a minute of the commencement of a consultation, the doctor was entertaining three to four diagnostic hypotheses and that subsequent questioning was directed to proving or refuting them.

I can recall how relieved general practitioners were when we revealed that research to them. For years they had felt guilty because they no longer took full histories or did complete physicals – sensibly, they were selective. They felt they were 'cutting corners', even being somewhat slipshod, and they suffered the opprobrium of their specialist colleagues for their approach. Yet, as we discovered, specialists also work in the same way, although they teach students differently. Now, the hypothetico-deductive approach, as it was called, is accepted by all. It was Ian McWhinney who first introduced it. It was enthusiastically taken up and gave a great sense of justification to general practitioners of the day, who at that time were in short supply and overwhelmed by a large volume of patients. It validated their approach.

A similar sense of justification was experienced about a decade later when it was realized that in addition to the hypothetico-deductive method, all doctors employed another method – pattern recognition. Although 'spot diagnosis' was a game played by our teachers and examiners, it was generally frowned upon in favor of the traditional history and physical examination. General practitioners were seen as using spot diagnosis too often. Yet Norman and his colleagues showed that often doctors knew almost instantaneously what the diagnosis was, there seemed to be little or no clinical reasoning. Only the unusual patterns required the hypothetico-deductive approach. Specialists too, perhaps even more than general practitioners,

use this method as they see a more concentrated array of clinical conditions.

Human relations education

There were many other defining moments – I shall mention them but briefly. First there was the discovery, in the early 1970's, of what we called human relations education. Before that, doctors were supposed to automatically possess a good 'bedside manner'; no specific training was available or considered necessary. But in the 1970's and 1980's many models and methods emerged to help the doctor develop these interpersonal skills, skills that we found were not necessarily inherent. Early on there was Rogers' psychotherapy, then Berne's Transactional Analysis that proposed that we all had within us the parent, the adult and the child, Cognitive Rational Therapy, Perls' Gestalt Therapy, Hypnotherapy, and later Bandler and Grinder's Neurolinguistic Programming, NLP as it was known. We watched films, consumed books like *'I'm OK, You're OK'* and *'Frogs into Princes'*; and sat on beanbags discussing these exciting approaches. We encouraged trainees to build up a psychotherapeutic toolkit, so that the best tool could be used for each situation. This gave them a greater sense of purpose when faced with the wide variety of psychosocial conditions they encountered every day.

Family dynamics and straightforward family therapy became popular and gave the general practitioner yet another tool, although in my view there is still insufficient emphasis on the family in the discipline we like to call family medicine. Ian McWhinney's patient-centred approach took its place with emphasis on the patient's as well as the doctor's agenda, and the critical importance of checking the patient's, ideas, fears and expectations.³ Stott and Davis gave us a useful model for the consultation. These understandings and techniques added powerful new dimensions to the family doctor's work. They redefined family medicine, enlarged its ambit and expanded its therapeutic potency. Family doctors were better able to provide the comprehensive care they were supposed to give. Psychosocial aspects became an integral part of the consultation.

Parity achieved

We gradually became equals with our specialist colleagues in terms of our training and preparedness for practice. A new respect emerged for our educational expertise, our assessment processes and the quality graduates emerging from our training programs. The phase of parity had arrived.

Now I must cease my storytelling although I could go on for hours talking about the events that changed

my view of the world and the discipline I was practising. I now want to progress to a concept that I believe is unknown, under-rated or inadequately used. It's what I call the 'systems mindset'. This is what I want you to really remember from this oration. This is what I believe is essential to family medicine as it consolidates its position in its third phase 'the phase of integration'.

Systems theory

Back in the 1960's Von Bertalanffy formulated what he called *General Systems Theory* which proposes that from the tiniest subatomic particle to the vastness of the cosmos, there are myriads of interlocking systems, and that a change in one produces a change in all the others.⁴ You are all familiar with the way in which body systems interact. You all know that the family is a system within which individuals interact. But this is a microcosmic perspective.

September 11, 2001

If you want to visualize systems theory on a macro scale, think back to September 11, 2001. Two fully laden jets demolished the twin towers of the New York Trade Center. The immediate effect was seen on television. Not seen were the 3000 people killed instantly. Beyond them were at least 20 times that number bereaved. The world was shocked. The New York Stock Exchange closed for several days; the world's markets fell sharply as stocks plunged. Air travel and tourism dropped and those who depend on it suffer still. Airlines asked for subsidies to continue and a couple collapsed; fear gripped those who needed to fly; insecurity heightened the world over. Conflict erupted between believers in Christianity and Islam, the war in Afghanistan escalated as the hunt for terrorists began, leading to countless thousands of dispossessed refugees seeking asylum, and the Israeli–Palestine conflict took on a new and sinister dimension. There is no better example of systems theory in action than the after effects of September 11 – one event in a tiny moment of time caused mega-effects the world over, that continue to this day.

So what has this theory to offer medicine, particularly family medicine? How could having a systems mindset change our way of practice?

I believe that most family doctors already operate with a systems mindset, but I suspect many, probably most, do so subconsciously.

Systems mindset

In the 1970's family doctors were interacting intuitively with their patients recognizing the potency of the doctor–patient relationship, the need for rapport

and empathy, the therapeutic effect of listening and really understanding the patient's problems, and the value of negotiating a plan of management with the patient rather than just giving orders. Yet at that time few had a conceptual framework, a metaphor for understanding clearly what they were doing. As soon as a conceptual framework was provided, they were consciously able to apply it; their insight into their actions heightened, they enjoyed newfound understanding, and their effectiveness as family doctors increased.

In the same way I propose to you that operating consciously with a systems mindset and adopting a few simple techniques to apply it, will give you the same heightened awareness and satisfaction.

Systems mindset in patient care

I first became aware of the central importance of having a systems mindset when I was working with medical students at the Chinese University in Hong Kong. I had one patient whom I saw many times. She had a multitude of complaints and a complicated family situation. She lived in Hong Kong some of the time; otherwise she lived in the USA. She had a husband and three children. Sometimes she was with all of them, sometimes with none. They oscillated back and forth trying to get a USA Green Card. At various times she had hyperthyroidism, hypothyroidism, hyperlipidemia, chronic backache, subjective visual impairment for which no cause could be found, and chronic anxiety. At each consultation the various factors influencing her state of health varied in their impact. Sometimes her back was her focus of attention, sometimes her eyes, sometimes her anxiety and uncertainty about where to live. I felt like a juggler trying to keep multiple balls in the air at the one time, assessing the importance of each at every consultation. I found that drawing a picture of her total situation helped me to come to grips with its complexity.

So I suggest you try this simple technique when next you encounter a complex situation. Take a blank page and place the patient's name in the center. Then sketch balloons around the patient in which you write the various factors influencing the patient's state of health, including yourself, giving each a weighting for importance, and then discuss this with the patient to be sure you have got it right. Remember that all these factors interact with each other as well as with the patient – but to draw in these interactions would make the picture look like a crazy cobweb, which indeed it is. Each time the patient presents, bring out the drawing and ask how things have changed, if other factors have entered the equation, and if some have left. You may find it helps you, and perhaps more so your patient, to understand the situation and its multi-

factorial causation, and to visualize possible solutions. It will move you away from linear cause-effect thinking, which still bedevils medicine. There is never just one cause and never a simple linear progression from cause to effect. There are always other factors of which we need to be aware.

Generalist as juggler

Think of yourself as a juggler trying to keep all those balls in the air. Avoid the approach of looking at just one or two balls, the ones you prefer, while ignoring the rest. The 'generalist as juggler' is an important metaphor in family medicine.

The metaphor has much wider applications. We live in a very complex world. One of our jobs is to manage complexity as it applies to our patients. But beyond that we need to understand the complexities of our communities, our nation, other nations, our region, the global scene, the environment, and even beyond that, our place in the cosmos. We need to understand health care systems locally, nationally, regionally and globally. It is easy and convenient to shelter within our consulting rooms and ignore what is happening outside. But, like it or not, we have entered a state of global interdependence. We cannot be ignorant of what is happening elsewhere in the world, medically, socially, politically, economically or environmentally. We may take refuge in the belief that a lone doctor can do little or nothing to alter the course of events. This is a state of denial. We can do so much, if we set our mind and energies to it. Wonca and its Member Organizations are vehicles that can support us if we want to contribute.

Global interdependence

In his editorial on 'Medicine in the age of global interdependence' in the February issue of the *BMJ*, Richard Smith quotes Bill Clinton who said: 'We are all going to have to change. We have to recognize and accept our interdependence. We live in a world where we have torn down walls, collapsed distances and spread information.' Richard Smith goes on to say this: 'Medicine knows something about the tension of having commitments at home and abroad. It is akin to the tension of doing your utmost for the patient in front of you but at the same time recognizing commitments to other patients and the broader world. Many doctors like to think that there is no tension between caring for individuals and populations, but there is, particularly in allocating resources. Yet there is an understandable anxiety about putting the interests of populations ahead of those of individuals, not least because it can culminate in inhuman acts. The tension is inescapable. Many doctors, for example, British general practitioners, have learnt to live with the tension of caring simultaneously for individuals and populations. But

usually the population means a practice list of 1500. Can we find a way to think meaningfully about our responsibility to 6 billion people, the population of the world? How should we practise medicine in a world where half of the world's people live on less than \$2 a day, 1 billion people go to bed hungry every night, one-quarter of the world's population never gets a glass of cold water, and a woman dies in childbirth every minute?' He goes on to say: 'All medical schools teach public health, but how many teach global health? September 11 taught us all about global interdependence. But can medicine now rise to the challenge of thinking and practising globally?'⁵

He concludes: 'We must do the hardest thing of all, change ourselves'.

That is what I am asking you to do today.

Global systems mindset

By taking on a systems mindset, one that extends from the consulting room to the community, the region, and eventually the global scene, we can begin to appreciate, as global citizens, how interdependent we all are. Clyde Hertzman of the Department of Health Care and Epidemiology at the University of British Columbia. When talking about inequalities in wealth, health and health care, he pointed out that not only is the gap widening between rich and poor on every parameter, a fact of which we are all well aware, but that the larger the gap, the more the health and well-being of the whole community is adversely effected. In a study of health and economic status in the USA, it was demonstrated that overall health status in states where the disparity was greatest, such as Louisiana, was significantly poorer than in states where the gap was smaller, such as Minnesota.⁶ Put another way, wide disparities in wealth pulls down the health of everyone in that community, a fact that could not be explained away by 'pockets of poverty' effects. The explanation given was that societies with wide disparities have '... higher levels of social distrust, weaker social safety nets, less investment in education and higher levels of gender inequality'. These affect everyone's health. This phenomenon applies as much globally as it does locally.

Yet it is disinterest among the wealthy about the plight of the poor, both locally and globally, that is a root cause of so much of the anger, disillusionment and hatred that exists in the world today. Some attribute September 11 to just that.

What about the global scourge of HIV/AIDS? Or the global effects of tobacco use? Do they matter? Wonca thinks so. On the HIV/AIDS front Wonca is seeking to develop partnerships with other non-governmental organizations, and is collaborating with WHO and UNAIDS to progress the global attack on this problem.

Wonca is also mounting a project to monitor and encourage tobacco cessation activities in its Member Organizations.

Should we be concerned about the plight of general practitioners in India or Zimbabwe struggling to provide health care to a poor and often unappreciative population, under difficult economic and political circumstances? Often inadequately trained, short of supplies, poorly paid, overworked, harassed – should we care? Some do. New Zealander, David Whittet, went to Orissa State in India on a Wonca Foundation Award of just £1000 sterling and worked marvels. That can be repeated, if the motivation is there.

Students learn ‘global health’

Happily, there are some signs of hope. On the academic front, I read in the February issue of *The Lancet* that the University of Bristol has included global health topics as part of its core curriculum since 1999. They cover global threats to health, globalization, links between health and wealth, childhood and vaccine-preventable disease, and HIV/sexually transmitted infections. These topics are discussed in the context of topical issues such as the war in Afghanistan, demonstrations at the World Trade Organization talks, South Africa’s challenge to pharmaceutical companies patents on retroviral drugs, and flooding in Mozambique. The organizers of the course have shown that it is possible to provide high quality teaching of global health issues within the core curriculum. They say that their approach ‘... is most likely to address the assertion of June Crown, president of the global health charity, Medact, that, “Anyone who qualifies in medicine who can’t put two sentences together about the impact of third world debt on health, is not adequately trained”’.⁷

Our aging society

Let us get closer to home. What about the aging of the population in the developed world? Management guru Peter Drucker, in an article in *The Economist* last October points out that not only is the number of aged increasing steadily, but the number of young to support them is diminishing. There will not be enough pension money to go around, so what shall they do? Work beyond retiring age says Drucker, even if only part-time. Yet most organizations prefer younger workers and are not geared for part-time work. To survive in this new society, organizations will have to change their thinking radically, to adapt, a classic illustration of systems theory, which tells us that changes in one system will affect all the others.⁸

So with all these changes going on around us, both locally and globally, how do we adapt? We need to

adopt the maxim: ‘Think globally, act locally’. It’s easier to do so with a systems mindset.

The phase of integration

Family medicine is now in the phase of integration. From the 1950’s we have moved from being virtually unacknowledged as part of the health care system, through the counterculture phase of education and enlightenment, to a position of parity with our specialist colleagues, and now beyond that to being accepted as the glue that holds the health care system together.

Working at the interface, we integrate the community into the health care system. Our integrative function brings together the contributions of many others within and outside the health care system for the benefit of our patients and our communities. We mobilize resources, some close to home, the family members, some further afield. While a necessary function is to dissect and analyze problems, we cannot stop there, we must put it all together again, recognizing that we are dealing with a whole person, who has a family, who lives in a community and a physical environment, who works in a workplace.

Take home message

So here is the take home message – a heartfelt request to you to make another conceptual leap. Adopt a systems mindset. Think systems theory.

Take a global perspective. Be aware of what is happening elsewhere. Be prepared to act. Use Wonca’s global orientation, its capacity to have a global influence.

But do not expect it to be an easy transition from traditional medical thinking to systems thinking.

Williamson and Noel in Robert Rake’s book *Textbook of Family Medicine* say: ‘... the biggest pedagogic issue in the development of systemically oriented family physicians is not the amount of new information they must master or the amount of time needed for this kind of practice, although both are relevant concerns. Rather, the biggest issue is the threat to identity, both personal and professional, posed by systemic and consequently less well-defined knowledge that is likely to be experienced as inconsistent with prior medical education, mythology and culture.’⁹

Unfamiliarity is the devil here. Conscious systems thinking, or as they term it, systemic thinking, is not the norm. It runs contrary to our usual ways of viewing the world. It is different from conventional linear cause-effect medical thinking. It requires discarding previous ways of thinking, previous truths. Tolstoy reflects the dilemma this way: ‘... I know that most men, including those at ease with problems of the greatest complexity, can seldom accept even the simplest and most obvious truth if it be such as would

oblige them to admit the falsity of conclusions which they have delighted in explaining to colleagues, which they have proudly taught to others, and which they have woven, thread by thread, into the fabric of their

lives. It may be difficult to unravel traditional medical thinking from the fabric of your life and to weave in its place a systems mindset – systems thinking – but please try. You will be so gratified with the outcome.

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