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ACTING LIKE A DOCTOR

An actor assumes a role in order to interpret and express the thoughts and feelings of a writer. He (or she) intentionally becomes something different, something new, in order to achieve this; he might become anything from his twin to his diametric opposite. A doctor is similar to an actor in that he also plays a role to achieve an end: the actor strives for aesthetic communication; a physician strives for the promotion of health. The parallels between actor and physician are most evident in the way we relate to patients.

A clinical clerk quickly learns that there are certain behaviours in the hospital which get things done. Dealing with floor nurses, dealing with ancillary health professionals, avoiding the wrath of nurses in the O.R.; we learn our expected behaviour through trial and painful error. We are very functional people: we learn to do the things that make things work. We learn to play the part.

But learning how hospitals work is no different from the training that any new trainee will receive on starting a new job. The more important role, I think, relates to the mannerisms that patients expect a medical person to have. We learn bedside manner, which is an acting role from the costume through to the lines. There may be some people in medicine who do not see dichotomy between their true self and their patient-self, and it may be that these people are more natural and honest with their patients. It seems, though, that for many doctors the persona they present to the patient is contrived; it is rehearsed in order to be functional. These people clearly recognize: that the separate face they don when they see a patient is not truly their own, but is instead designed to facilitate a smooth encounter. Perhaps only students notice the sacrifice of veracity for function because we are not yet completely comfortable with it.

But completely natural behaviour with patients is not of primary importance to a clinician. There are many examples where complete disclosure is counterproductive; e.g., a testicular feminization patient who is not told she is genotypically male is, strictly, being mislead. Our subtle role-acting when we see a patient is an extension of this. Our job is to make people healthy; the morality of the means is not as important as the efficient and humane administration of the end.

David Creery  
Meds '89

PROFESSIONAL DETACHMENT

This edition of the journal includes a “Letters to the Editors” section as submissions to the previous journal have engendered some debate. The editors welcome such contributions and will print as many as space allows.

Recently our class viewed “The Last Days of Living”, a documentary about the day to day functioning of a palliative care unit in a Montreal hospital. The film introduced a variety of patients in the unit and followed their demise as they were being cared for in exemplary fashion by a staff totally attuned to their emotional needs. This is the personal standard for a physician to strive for, it seemed. Haven’t we students all been put off by at least one detached, case hardened clinician or another?

In keeping with the extremes and the unnaturalness of much of medical school, students are forced to confront death regularly at an age when our peers are safely sheltered from this reality by a youth-oriented, death-denying society. We enter medical school devoid of coping skills and full of the fears and phobias that beset the layman. I remember clearly the weeks of nightmares that plagued me prior to first seeing a cadaver in anatomy last year.

From the beginning of our training, we are desensitized to the symbols and conditions that are associated with death. I was proud of myself at my ability to suppress my disgust at the smell of the place. Humour helped, as well as losing oneself in the details of the dissection process. The whole experience became a safe, mechanical exercise, and I was relieved to note that my newfound immunity protected me from anything the pathology department tried to show me as well.

Yet aren’t we continually being exhorted to be humanistic, sensitive, caring individuals? How often do patients in the hospitals complain of a detached, seemingly disinterested physician? And how many times do we assure ourselves that we will be different that Mrs. Smith won’t just be an “ovarian cyst” to us?

Last year I watched a young woman close to me die of cancer and the slow sickening ordeal terrified me - it brought home the fact of my own mortality, and the frustrations and feelings of helplessness that nothing could be done were enormous. At the time medicine and all its pyrotechnic gadgetry seemed like the most enormous fraud.

I see now the fallacy in believing all detachment to be a lack of concern and a doctor’s failure to entrench himself emotionally may in fact be in the patient’s best interest. It is inappropriate to be compulsively concerned with the technical details of illness and death and certainly interpersonal ability to relate to the patient warmly and meaningfully must be part of a complete practice of medicine. Yet if one is to become an effective physician over the long haul, a certain amount of equanimity is both necessary and desirable.

Monika Schwab  
Meds '90
Dear Editors:

I was appalled at the narrow monochrome thinking displayed in the article Health Care: Freedom vs. Equality in your most recent edition. Surely such an outpouring of blinkered, ponderous thinking cannot be the work of one person; the Government & Civil Service must be at fault.

It is, furthermore, offensive to read comparisons between our Health service and vanilla ice-cream, hamburgers or blue jeans. The well-being of a human being can in no wise be dealt with as a mere consumer object. It is a source of relief that this sort of diatribe will not reach too far beyond the medical profession.

If is fallacious to propose that Freedom or Equality are the movers of our lives or that the two are mutually exclusive. Unless each one of us can enjoy the best health we are capable of reaching there is no freedom, neither is there any equality. The prime mover of the Health care system must be compassion, and this dictates the best possible care for all persons, regardless of race, creed, colour or socioeconomic status. This remains an ideal, but it must be the ideal to work towards this, we must shun any “health systems” tiered on the basis of economic status, and work towards a system that will make private medicine superfluous.

A recent example of the nightmares that occur under an elitist system is the odious “Gold Card” service recently discontinued by Toronto General Hospital which was caught, like a guilty child, with its hands in what they perceived (wrongly) to be the “cookie jar”. Under this program, well to do “members” could receive quicker admissions, private rooms and 24 hour immediate physician response upon request. A doctor refused to answer the “call”, as he felt the heath of the “plebs” was being compromised, and the practice was exposed. It is rather unfortunate that premature babies cannot purchase a gold card in utero. Perhaps then they could get admission to Toronto General, rather than being shunted to Kingston or Sault Ste. Marie.

The thought of saying to the poor, as we put them on the head and give their children (which must be numerous) lollipops, “Don’t worry, you see, we’re going to provide you with a minimum acceptable standard of health care” is nauseating, we could continue, “Of course, not being a minimalist myself, and having a bit of cash to hand, I shall be accessing health care at a higher level”. Perhaps we should add “God be with you...”.

This country has resources enough, if we choose to commit our selves, to reach the ideal, and banish private medicine to the Netherlands. Perhaps some of us will hurt financially. Perhaps some of us may drop out of six-figure incomes. Perhaps we’ll feel better for it.

Alistair Ingram
Meds ’90

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To the Editors:

I take exception with Brad Dibble’s article in the December, 1987 issue of the Journal (Health Care: Freedom vs. Equality). Mr. Dibble approaches health care as a commodity like any other and is dismayed at the fact that it is treated differently than all other products, such as shelter and clothing. Health care is not treated as a commodity for the very reason that he himself recognizes: “without health care there is nothing.” For this reason health care has been administered by government; society has recognized that quality health care is something every citizen should be able to receive from the community and that this should not be abrogated because of inability to pay.

Mr. Dibble says that once a minimum acceptable level of health care is provided, society’s obligation ends and those who are able to afford better care should be allowed to do so. I would worry about his “acceptable minimum of quality.” Would he say that dialysis is a luxury after age 55? That premature babies can only be kept alive if their parents feel that the infants are worth the cost, and can afford the cost?

I disagree that economic status is a valid, or even efficient manner of determining where to allocate health care resources. This idea raises questions not about the quality of health care but about the quality of life and of the life’s worth. Deciding that a wealthy person, by virtue of that wealth, can receive better care implies that the life of a wealthy person is worth more than that of a poor person. Society, by showing concern for and by providing a “safety net” for all disadvantaged people has shown that it does not accept such a notion. Mr. Dibble’s view would lead us back to survival of the fittest—with strength being replaced by dollars. Civilization has deemed survival of the fittest to be an inequitable approach and has established limits to ensure fairness to all—in many areas, not just health care. Providing all members of society with health care at levels decided upon in an accepted medical, not economic, manner is a much more appropriate method and is more cognizant of the frailties in human judgement.

Another problem that I have is with Mr. Dibble’s idea that extra-billing was a method of rewarding better quality doctors. Extra-billing was not awarded to a physician on the performance of her/his skills, it was determined by the individual doctors, who could decide themselves whether or not they were worth more than their patients’ health care plan would provide. I would not be averse to a method of rewarding physicians who are recognized as being outstanding, or better than average, but this does not have to be extra-billing. Doctors could be evaluated on a peer-review basis and those found to be better could be paid more out of the funds available. This method could even be refined to recognize length of service.

Even if I agreed with Mr. Dibble’s arguments on freedom and equality, health is more fundamental than those principles and is not bound by the balance that Mr. Dibble strikes between the two. Freedom and equality are fairly unimportant concepts when one is in a hospital bed—if it hasn’t been bought from under you.

Atul Kapur
Meds ’90
Dear Editor,

As members of the Executive Committee of the newly formed London and District Women in Medicine, we found your editorial titled 'What is the Difference' from the December 1987 issue to be misleading and inaccurate.

The editorial seemed to be a personal view based on attendance at only one meeting which consisted of speakers on midwifery and coffee with conversation afterwards. Unfortunately assumptions were made by the editor from this meeting about the group's purpose and goals. These issues had been discussed at length during the first meeting of May 1987 (not October 1987 as stated in the editorial). At the first meeting in May, the purpose of London District Women in Medicine was outlined as follows:

To provide a structural format for medical women which allows:
1) development of role models
2) support group for medical women and networking
3) help for medical women in any kind of need
4) social interaction
5) discussion of issues relevant to medical women.

As well during the May meeting it was made clear that the general meetings (ie. speakers and social events) are not 'exclusive to women' and business meetings would be held to discuss future goals and activities.

The Women in Medicine organization is meant to be a common interest group involved in many issues especially those of particular interest to medical women. It is not dedicated to 'topics of interest to one sex only' as stated in the editorial and some male colleagues have attended the meetings. The organization would welcome participation and suggestions from physicians and medical students (male and female).

The group would like to serve as a source of role models for women at all stages of their training who are in the unique situation of balancing their family, career and other interests.

The Executive Committee of Women in Medicine would like to invite anyone interested to attend the next meeting in March. More information is available from any member of the executive including ourselves who act as medical student representatives or the chairperson Dr. Nancy Naylor. We hope that this will prevent any further misunderstandings or misconceptions.

Kristine Roberts
Meds '90

Diane Whitney
Meds '88

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Prevention — The Future

In classes and on the wards, we medical students are constantly reminded about the costs of tests and therapeutic procedures. "The health care system in Canada will go bankrupt if you order too many tests" we are told.

The situation in Canada is not as bad as in the States. While a classmate of mine was doing an elective in Washington D.C., the doctor asked him what diagnostic tests he would order. He listed the ones he thought were necessary. His preceptor was astonished and told him there was no way the patient could afford all these tests.

In Canada, the patient is not directly paying for his health care - so it's easy to run up the bill. However, the government is feeling the crunch of a system in need of reform. An option the government is considering is to limit the number of tests a doctor can perform either per patient or annually. As a future physician I sincerely hope this option will not become a reality - there is already enough government intervention in medicine...

So what is the solution? There is no simple answer but it seems logical to concentrate more on prevention than ever before. The cliché "a stitch in time saves nine" begins to make sense. If a disease can be stopped before it starts - imagine the savings in money and more importantly people's health and lives.

It was the AIDS paranoia that really made me aware of how important education and prevention really is. There is no cure for this disease and our only hope at present of stopping the disease from spreading is via education. This summer I was introduced to Arndath Hill, the Health Educator at Student Health Services at U.W.O. Under her direction but with the assistance of the staff at Student Health, a program, "Can We Talk" for students in residence was developed. The one and a half hour session was designed to educate fresh students about sexuality and alcohol. From my experience, that is what the students need. With the help of videos, case studies and lots of "freebies" (pamphlets and even condoms), the sessions are usually entertaining, very educational and from my point of view, very rewarding. At one time the sessions were done by the staff at Student Health but that task has largely been turned over to the student facilitators. The fresh seem to relate to student facilitators better than to the staff. This is not to say the staff is not needed, as they have a great deal of knowledge that comes in handy when difficult questions are asked. However, peer education seems to be a more effective method.

Some fresh like to think they know it all when it comes to sexuality and alcohol but from the questions asked afterwards, there was room to learn more. Not only did the students learn, I learned a great deal about clamidia, AIDS, candida etc. In school it is easy to read some-thing and forget it a few days later but when you are put on the spot and asked something - you have to know it.

If by these sessions one person has avoided becoming ill then the time put into "Can We Talk" was worth it. I hope other medical students will become involved in the volunteer program in order to educate themselves and the community. It seems prevention is being recognized by others too. Just recently, Steve Podborski, representing the Advisory Group on Health Promotion, recommended to the Ontario government to boost spending on health promotion and disease prevention by $110 million. It makes sense to spend an additional one percent of the annual $1 billion health care budget on keeping people healthy and preventing disease. So remember, don't smoke, buckle up and use a condom properly.

Radka Kratky
Meds '90
Maternal Medicine

The purpose of this treatise is to examine with objective scrutiny the medicine practiced on children, primarily by the female part of the parental dyad. As medical students and practitioners there are now concrete textual sources of information available for analysis and comparison. There may or may not be a problem with the universality of the results. The examples are admittedly derived from a sample size of one. As to objectivity, there is of course another possible flaw in theopus, that being that the author is somewhat fond of his mother. In response, one can only say "So sue me, why don't you?".

A logical condition to work through is probably the common cold. If memory serves me correctly, it was marked by a sore throat, runny nose, difficulty swallowing (and for some reason, because of this a persistent need to swallow) and a cough. Involved in the cough was always the firm belief that a) it could be consciously suppressed and b) a periodic coughing fit would get it all out of your system at which time you'd fall asleep.

The next task is to work through the treatments of choice. The first of these was bed rest. This was sometimes transferred to the couch in the living room provided the available television was either animated or did not involve men and women kissing. This was followed by the inevitable cough syrup. Available in three colours, the red and green tasted unpleasant and the gold kind of had a taste and odor so foul that its appearance alone sometimes elicited recovery. That second teaspoon of it is still remembered as the worst part of getting sick.

Steam was always a real mystery. The image of walking in the middle of the night to new-found lush tropical vegetation and dew-covered hardwood floor remains.

The final stage was Kleenex, toilet paper, or paper towels (all reusable). Yes, it was with these tools that one battled the sniffly nose. Always a good sign of an oncoming cold, the runny nose frequently came as something of a surprise. One was always left with two possibilities, and then without warning you would run out of sleeves. There was still one place where a Kleenex could always be found, be it in a supermarket or a church. Like a seasoned magician there was always a bundle of it to be found in mother's sleeve. Why? Some sort of evolutionary advance on wiping it on your shirt? An in-body Kleenex dispenser perhaps? Come to think of it, when did I ever see her forearm?

It is here that the rose-coloured memories of yesterday are held up to the rigors of modern medicine. An analysis of the treatments recalled is perhaps harsh but nevertheless vital. As far as can be gleaned from the voluminous literature, the cold is still a mystery. Making the logical connections, the bed rest then served only one purpose in my family: crowd control with precise knowledge of your location.

On recollection, bedrest was sometimes accompanied by a bell whose purpose is only now becoming clear. Don't they put bells on cows to keep track of them? What a difficult realization this is. I loved that bell. I'd ring it every couple of minutes for a glass of water or a question about dinosaurs, or sometimes just to get my Mom to come upstairs. Even remember the night it broke. I just woke up the next morning and the ringer part was gone. Getting back to the issue at hand, this bedrest may have had little therapeutic value.

As for the TV censorship, it wasn't until university that I saw my first soap opera start to finish. Okay, so maybe there was some utility to that move.

With first year anatomy almost complete, it's quite obvious that there is no built-in Kleenex compartment in the female forearm (though I toyed with the idea that it might be the palmaris longus for a while). With this knowledge, a new question presents itself. Is there a part in the mother's day spent filling sleeves with tissues? Just think about it. On a given day there was often at least two of the kids working on colds and still another in need of an emergency face wash using the tissue (washcloth) with saliva (water) technique. Perhaps I disgress. This problem should probably be left to the Biophysicists.

As pharmacology is learned, the value of the cough syrup becomes clear. The power of the gold kind (Isoprel) to raise the stricken on sight may require some Nobel-calibre research to understand.

There are other treatments from mothers for other conditions that so far remain unexplained in the medical texts. The flat ginger ale for the child with the flu leaps to mind. Was the drink's flatness a necessity or was it just what remained deep in the fridge? Perhaps such questions are fodder for more fertile minds than my own.

At one point this was to be an objective review of maternal medicine. It then slipped into a bit of an expose of some of the practices. On the way through it may have become a bit too heavy on the Andy Rooney/Erma Bombeck commentary. All that remains now is the memory of middles of nights coughing persistently or being sick in my bed and suddenly hearing the movement of tired feet and the appearance at my door of my doctor in her housecoat setting to work.

Steve Beamish
Meds 91
Primary Health Care in the Developing World

Introduction

The purpose of this article is to familiarize the reader with a term now heard frequently in discussions related to health and health-care in the developing world—"Primary Health Care." The term is new, coined just ten years ago at a W.H.O. conference at Alma Ata in the Soviet Union. The concept too is somewhat novel because it involves a re-thinking of the sources of health and an approach to health maintenance which is not based on medicine, health professionals, and institutions. Initially I would like to provide some background to the problems associated with this more traditional approach to health-care when it is applied to developing countries, based largely on my own frustrations form working in this area. Subsequently, I would like to introduce the eight components of Primary Health Care, to provide an introduction to both the vocabulary and the philosophy of this alternate approach.

Traditional Approaches

Sooner or later most Canadians working in the area of health in the developing world come to question the validity and efficacy of their contribution given the general state of the country's health-care system. As the excitement of the cultural experience and new medical challenges gradually become less overwhelming, the newcomer has a chance to examine the realities of the health structure and their implications. It is true that there is a tremendous amount of satisfaction for a doctor in treating a child with severe malnutrition and diarrheal dehydration with a bit of Metronidazole to treat the intestinal parasites causing those problems. However, after seeing the fifth such child in a day's clinic, one begins to question if there is not something which could be done—like providing a source of clean water—to prevent the child from getting the parasites in the first place and thus avoid the illness and the cost associated with the infection. Instead of admitting such a child for intravenous rehydration, one wonders if it would not be more reasonable to develop a community awareness of the value and ease of oral rehydration therapy. For every child or adult seen in the clinic with tuberculosis who completes the long, expensive, often toxic treatment, one assumes there must be 5-10 others in the community who are infected and infectious, and untouched by any immunisation, screening, or treatment programme. Similarly one wonders about the wisdom of developing an expensive rehabilitation programme for the many children left disabled by polio when a less costly programme of immunisation could potentially eliminate such a need. Given the high financial and human-resource cost of maintaining a large hospital—itself inadequate to provide curative care for the whole community—one starts to see that any health-care system in a country of such limited means must be operative at a community level, using the resources that the community can provide or sustain rather than being entirely dependent on external contributions of a material or technical nature.

This shift in thinking is difficult for Canadians because most of the problems we encounter in the developing world have long since been dealt with in Canadian society and we have little current experience with the problem-solving skills required to address them. With our training and experience oriented towards the medical model of diagnosis and cure—a valid model where preventative issues have already been addressed—we find ourselves initially with little to offer a developing-world community beyond antiparasitics, i.e., rehydration, pills for tuberculosis, and disability rehab programmes. As important and rewarding as these interventions are in any setting, suddenly the sense of satisfaction has waned because there is an uneasy feeling that this contribution is not merely inadequate but also perhaps inappropriate.

Primary Health Care

During the past three development decades, much thought has been put into strategies for attaining the World Health Organization goal of Health for All. This implies methods of addressing the basic health needs of people at the community levels. The framework most developing countries use for this purpose is that of Primary Health Care (PHC) as outlined by the W.H.O. Alma Ata Declaration of 1978. The goal of PHC emphasizes disease prevention and community participation rather than over-dependence on institution-based medical personnel for curative services. Admittedly this is a far more vague, challenging, and difficult approach to health care than diagnosing and treating disease: but one has to feel that in the long term it will prove more sustainable and effective.

As outlined by the Alma Ata Conference, PHC is a strategy that has eight components designed to permit the community itself to address the root causes of the greater part of its own morbidity and mortality. The essential components are:

1) adequate nutrition and food supply;
2) access to clean water;
3) health education;
4) maternal and child health, including family planning;
5) universal childhood immunisation;
6) control of communicable diseases;
7) treatment of illness and injuries;
8) supply of essential drugs.

A pre-condition for provision of all these components is that they must be available even in the smallest community and provided by members of its own population. Thus the current situation in many countries which requires some people to walk many miles to see a medical doctor simply to receive chloroquine for their malaria is not satisfactory. A village health worker, accessible and state-paid, could easily be trained to recognize the signs and symptoms of malaria infection and respond appropriately.

The provision of Primary Health Care includes access to adequate nutrition and food supply as well as to a clean water supply. A principal reason for the high incidence of infectious disease in developing countries is the population-wide decreased levels of immunity due to a chronic state of malnutrition. In most communities the greatest cause of childhood mortality is diarrheal diseases caused by impure water. Health education of the general population in terms which can be understood by an illiterate population (for example using popular theatre or cartoon-illustrated printed material), from persons respected by the community, and on issues relevant to them can decrease significantly the incidence and morbidity of illness. This is particularly true for child-raising (many mothers believe that a child with diarrhea should be removed from the breast or any other oral intake) and infectious diseases such as sexually-transmitted diseases (which many people in Haiti for example believe to be acquired from sitting on hot surfaces) and AIDS (which is seen by many as a "spiritual" disease caused by a desertion of one's personal protector). It is inaccurate to think that these are entrenched social beliefs which cannot be changed—no change comes about without information—and most people, even uneducated and illiterate, are open to the lessons taught by experience.

The next three components of PHC are so well established in the Canadian health-care system to the point that one forgets their major contributor to well-being. Maternal and Child Health includes adequate pre-natal care including fetal growth monitoring and maternal well-being. This can be provided at the community level by a traditional village midwife with enough training to identify continued on page 6
those few women who need to be referred for further supervision. Well-baby and well-child care can significantly change the shape of a country’s life-curve and economics in most countries the greatest mortality occurs in the first year of life. Although often forgotten, it is interesting that the idea of a systematic use of growth charts to follow child well-being grew out of pediatric public health programmes in West Africa in the late 50’s. This method of following a child’s development is also one that is easily performed by village health worker who can thereby identify those children at risk for illness and in need of medical intervention prior to an emergency, the point at which children are usually seen in hospitals. It is also an important opportunity for education of the mother and the community especially since in includes information to allow women to space their children at a minimum two-year interval. Universal Childhood Immunisation is a low-cost health intervention, easily promoted at the village level, with a long-term effect on the survival of the village’s children. Control of communicable diseases is a component of PHC that can occur at both the national level with large-scale programs such as malaria eradication (which have had considerable success especially in some island countries) and at the community level with local improvements in environmental hygiene (latrines, garbage disposal, etc.).

The last two components of PHC are more in keeping with Western ideas about what is real medicine. Access to treatment of illness and injuries and a reasonably-priced supply of essential drugs are obviously important components in maintaining the health of any population. No one need delude himself that even a perfect system of public health can eliminate the need for curative interventions. It is significant though that these two curative components are effective only in the context of the other six. And here again is important to emphasize the community accessibility of these services. In countries where the maximum health expenditure per capita is rarely more than $2, it seems unreasonable to pour scarce financial resources into highly sophisticated teaching hospitals which can offer services to only a small percentage of the population base. A further disadvantage is that such centres tend to turn out health professionals who are trained to work only in such centres and are out of the touch with the daily health problems of the people. This may be consistent with the Canadian attitude that all patients and all illnesses, no matter how rare, are to be treated. However in a system of a very limited resources where hard choices must be made, it may often be necessary to limit the scope of services made available to the population. It seems to make sense that those services should be the ones that have the most substantial impact on the health of the whole population. It is to be hoped that as time goes on and some of the global economic and resource inequalities are evened out, all people will be able to look forward to the level of curative care which Canadians now take to be their right.

Conclusion

The W.H.O. strategy of Primary Health Care is not a new or ignored area of health services in the developing world. My experience many countries throughout Africa and the Caribbean are directing a good deal of their limited health budgets to this approach to improving the general health of their population. While large curative-oriented institutions will always be needed, it seems that there is much to be achieved towards the goal of Health for All by concentrating efforts and resources, both human and financial, at increasing the availability of essential health services at the community level. Surely the future of health in the developing—as well as the developed—world lies with individuals and communities taking responsibility for their own well-being. One of the greatest rewards of working in health or development is to be part of that process—but it may require some change in our way of thinking.

Don Melady
Meds '88

The Animal Rights Movement and Bio-Medical Research: Implications for Medical Students

The animal rights movement (ARM) has recently received considerable media attention, and it is now garnering a measure of public support in many countries of the world. The movement probably owes much of its present status and success to the long-running and ultimately successful campaign against the seal hunt in the 1970's. Activists have used the skills and contacts from that period to campaign on a variety of 'animal rights' issues.

A prominent issue in this regard has been a campaign against many aspects of bio-medical research. If ARM were successful in these campaigns, there could be very serious consequences for research, and ultimately for the practices of medicine. All medical students, as future researchers and practitioners, should be aware of the implications of ARM. This article will address some of those issues.

ARM is not a new movement, though it has reached new heights of prominence in the last two decades. The original AR Movements began with the anti-vivisectionists in Britain more than a century ago. Some of its prominent adherents then proclaimed that knowledge had reached such an advanced state that further work with animals was not necessary, or even useful.

Since that time, research that has frequently used animal models has allowed medicine to nearly eliminate most diseases that were major killers in the late 19th Century. The vaccines and antibiotics that were used to do this could not have been developed without a great deal of work on a variety of animals including mammals, ranging from mice to primates.

Much of the work that went into the development of new techniques simply could not have been done with human subjects, regardless of ethical considerations. It is obvious that small animals require much less space and food than an equivalent number of human subjects, and are therefore infinitely less expensive to work with. Similarly, the brief life span of many smaller animals means that several generations worth of work can be done within a year, whereas in people the same work would span decades with long-lived species such as humans. Certain species have unique features that provide an excellent way to study a process. For example, it is possible to use procedures on a pregnant sheep that would certainly induce a miscarriage in humans.

Today’s ARM activists similarly proclaim that we have reached a magnificent level of knowledge, and assert that there is no need to use live animals for further research. When similar claims were made in the 1890’s, it was suggested that careful study of structure would unlock all the secrets of function. We can not detect definitive differences between many functionally very different cell types even today, and we certainly could not do so using the technology of the last century. Activists today suggest that all future work can utilize “alternative” methodologies, such as computer simulation, tissue culture work, and the like. However, none of these provide a satisfactory substitute for the staggering level of complexity seen in a live organism. It is therefore likely that reliance on alternative techniques would be as unproductive now as reliance on anatomical studies alone would have been over the
last century.

The antivivisectionists of the 19th Century campaigned not only against the use of animals in research, but also against the use of knowledge derived from that work. Their efforts were at least partially responsible for delaying the implementation of mass vaccination programs against diseases such as tetanus and diphtheria in Great Britain early in this century. The delays resulted in needless death and suffering for many people. It is to be hoped that such extremes would not be repeated by the ARM in today's society.

From a brief examination of some aspects of the history and effects of past animal rights crusades, I will now discuss some of the methods used by ARM today in pursuit of their goals. Briefly, they are using sophisticated public relations techniques to alter public attitudes and to raise large sums of money to support their aims. This has been coupled with on-going harassment of individual scientists and institutions, with the aim of forcing them to stop research, or at least to make it as difficult and expensive as possible to conduct animal research.

Among the most obvious of the public relations techniques used by ARM has been their careful selection of high profile campaigns. Commonly, these use the most photogenic subjects available. In some cases there has been selective presentation of facts. The anti-sealing campaign probably illustrates these procedures as well as any.

Baby seals are undeniably cute, and this made it easy to use their pictures to attract public attention. It has been asserted many times that the campaign could not have succeeded had the seals looked like manatees, another marine mammal of North American waters. While manatees, in contrast to seals, are officially endangered, they are definitely not cute and cuddly. The usual statement is that only a mother manatee could ever love a young manatee. It is unlikely that Brigitte Bardot would ever hug a young one.

The information presented by the anti-sealing activists was also carefully chosen. It suggested that the seals were in danger of being wiped out by massive overhunting. This was simply not so. While there was debate regarding the numbers of young seals that could be harvested each year, scientists studying the species believed that the seal population could sustain a substantial harvest each year.

A number of the organizations involved in the campaign against sealing developed a high level of expertise in fund-raising, and creating publicity. The skills learned in that area have now been transferred to other areas. An example of this is the Fund for Animal Welfare, originally dedicated to halting the killing of young harp seals. The New Brunswick teacher who founded it is now a well-paid professional ARM activist. He was recently seen on National TV proclaiming that it was never permissible to kill any seals on any age or species, period. If such a closed-mind attitude carries over into other areas, and especially into matters dealing with scientific research, the implications are obvious and frightening.

The ARM has already had significant affects on researchers in Canada, and more specifically UWO. Because there have been many "animal liberation" raids at a variety of institutions, it has become necessary to install ever more elaborate security systems for animal holding facilities. UWO recently authorized spending $200,000 to upgrade the access control system for animal rooms on campus. That sum does not include any of the costs for controls that are already in place. To put the costs in perspective, it is much more than the tuition fees paid by an entire year class of medical students. Similar expenses I have been incurred by all research institutes in Canada. There are far better ways to spend millions of dollars in research funds, but such outlays are necessary to protect all the work that is being done behind the doors that have reluc-

If ARM enthusiasts did gain entry to research areas, they could easily jeopardize years of work and millions of dollars worth of research simply by altering carefully controlled experimental conditions. That does not even consider the effects of releasing or switching experimental animals. Such an event occurred at UWO a few years ago, with the much-publicized raid on the chaired prime study.

Even more seriously, some institutions, especially in Europe but also in the U.S., have been seriously damaged by arson and similar attacks. That has not happened in Canada yet, but the mere fact that it has happened elsewhere means that our labs must invest in protective measures.

After the illegal entry into the UWO facilities, the perpetrators pressed private cruelty-to-animal charges against the University staff involved. This occurred despite the fact the facilities were no more met all regulatory requirements. While the charges were abandoned at the last possible moment, and after the maximum of favorable publicity had been garnered, a great deal of time and money was spent preparing a defense. Those resources could have been better spent on the search for improved medical treatment for any of a myriad of diseases.

The charges also caused significant stress for the individuals involved. Very few of the medical students of UWO will have yet had an opportunity to appear in court in a professional capacity, but I can assure you it is not a pleasant experience. Before returning to school, I was an expert witness before official panels a number of times. Watching skilled lawyers attack even the best-prepared and most-knowledgeable witnesses is highly educational and more than a little intimidating. The thought of being a defendant in such an emotion-charged case is, simply put, frightening.

To conclude, may I suggest that any readers wanting to know more about ARM should read the articles and books by Allan Herscovici (for example: Second Nature: the animal-rights controversy; Call number HV4708.H47. 1985). He is a Canadian author who has researched the subject in great detail for several years.

Allan Garbutt
Meds 91

HOSPITALS DREAD THE MONTH OF FEBRUARY, AS MEDICAL STUDENTS SURREPTITIOUSLY SCOUR THE WARDS LOOKING FOR TACHY PROPS...
ELECTIVE REPORTS

Medicine Down Under: No Worries

by Kevin W. Glasgow
Meds '88

Having nearly started my life as an Australian rather than as a Canadian, “Down Under” has always held a certain fascination for me. Fourth year electives period seemed like the perfect opportunity to realize a dream, and after consulting my bankers and being advised of my financial insolvency and obvious lunacy, I threw caution to the wind and booked my trip. (After all, a medical experience in a foreign land can’t be measured in monetary terms, Right, Mom and Dad??) And so it followed that after stopovers in Alberta and a month of Radiology in Vancouver, it was on the great jet again to Brisbane, Australia, site of Expo ’88. Touching down en route in Los Angeles and Honolulu didn’t cause me terrible upset either.

Dermatology in Queensland. What more could a medical student ask for? As Australia’s “Sunshine State”, Queensland is home to Surfer’s Paradise, the Gold Coast, The Sunshine Coast, the Great Barrier Reef, Crocodile Dundee’s Walk-About-Creek Pub, and much more. Queensland also has the world’s highest incidence of melanomas and is the home of Q-fever. My elective was at the Royal Brisbane Hospital, the largest hospital in the Southern Hemisphere. The quality of teaching was excellent, and I saw more dermatopathology in the course of one month than I’ll likely see in the remaining of my life. (Yes, Porpluria cutanea tarda really does exist.) The pace of hospital life was civil and relatively laid back, with morning and afternoon tea breaks being obligatory. I also had the opportunity to renew acquaintances with four young Australian doctors with whom I travelled in Europe two years ago when we were all medical students. Certainly the life of an Australian post-graduate struck me as being much more humane than that which the North American educational system fosters. The residents generally work shifts and in many hospitals are entitled to bill for overtime. The Canadian reality of being up for more than 24 hours while on call was a foreign one to my friends; indeed, they expressed horror at the concept.

Most of the nine Australian medical schools have six-year undergraduate programs, with the majority of students entering medicine directly after high school. The average age of graduation is 23 and the degree obtained is not an M.D., but an M.B.B.S. While qualification for a general license is possible after one year of postgraduate hospital work, most doctors take a minimum of two years training after graduation. It was my impression that Australian medical students, while being strongly grounded in theory, obtain less practical experience than their Canadian counterparts. Certainly a fourth year U.W.O. student can hold his or her own with a sixth year Australian.

It is true that Australians as a whole are very friendly and hospitable people. I was wined and dined regularly, and on the last day of my Brisbane elective, the dermatology outpatient department closed early and we feasted on coke and champagne. It was with a great suntan (dermatology elective not withstanding!) and a tear in my eye that I left for my cardiology elective in Melbourne. [Of course, I felt compelled to stop first in Sydney - truly a world class city, Paul Hogan’s house is even a point of interest now for guided tours.]

Melbourne is in the southern-most mainland state of Victoria, and as such has a cooler climate than Brisbane and very changeable weather. Alfred Hospital in ] is typical of the inner city hospitals. Nurses are called sisters, interns are residents, and residents are registrars. And as for cardiology itself, its practice in Australia closely mirrors its practice in Canada, although I must add that I was specifically instructed to say ECG and not EKG.

At this point I shall indulge my penchant for wordiness and provide some background information on AUS. (pronounced Oz).

The Commonwealth of Australia is made up of 6 states, the Northern Territory, and the Australian Capital Territory. “Discovered” by Captain James Cook in the 1700’s and first populated by British convicts, Australia has evolved into a modern Western nation of more than 16 million people. Occupying the driest continent on earth, the population by and large hugs the coast in large cities, leaving the arid interior or Outback relatively untouched. While Australia is known for its unique fauna - kangaroo, koala, and platypus jump immediately to mind - it was the flora that struck me the moment I stepped off the plane. The eerie eucalyptus or gum trees with their corkscrew trunks and gnarled branches are a constant reminder that one is in a foreign land. At night, the stars in the sky are unrecognizable to a Canadian, the Big Dipper being replaced by the Southern Cross. And yes, water does swirl down the sink in the opposite direction (i.e. clockwise).

While the majority of people remain of British Isles stock (the British influence being manifest in day to day terminology, social customs, and driving on the left), the unofficial whites only immigration policy that held sway until
the 1970’s has been swept aside, and persons of every colour, creed, and tongue can be found. Indeed, the city of Melbourne is second only to Athens in terms of Greek-speaking population. The aboriginal population, to which many parallels can be drawn using our native peoples, accounts for less than 0.5% of the total population.

Australia’s relative isolation has fostered a strong sense of identity and a fierce pride in being Australian. Consequently, I was surprised at the extent of inter-state rivalry. I was hard-pressed to find a Queenslander who would say a good thing about Victorians, and vice versa. And the island state of Tasmania - Australia’s equivalent to Newfoundland seemed to bear the brunt of most jokes. Even the type of rugby varied from state to state; Aussie rules football is a Victorian rather than a pan-Australian phenomenon. Nevertheless, Australians one and all will break into a rousing rendition of Waltzing Matilda at the drop of a hat.

So why not bid the Canadian winter farewell and practise medicine Down Under? Well, unfortunately it is extremely difficult for a foreign medical graduate to obtain general licensure in Australia unless he/she is a graduate from the British Isles or New Zealand. A Canadian graduate must pass the graduates (70% failure rate on written component, 85% on practical component) at a cost of A$1500 per attempt, and furthermore one must travel to the capital of Canberra to be examined. The official to whom I spoke at the Queensland Medical Society was quite frank as she admitted the primary purpose of such a procedure is to discourage physicians immigration - Australia, like Canada, has enough domestic product. After hearing that, I decided to put my Australian immigration papers in storage...at least until the next Canadian snowstorm.

With summer (i.e. December) quickly approaching, I bade farewell to Aus. and embarked on two weeks of adventuring in New Zealand. Even there I performed a bit of medicine, albeit on deer at a friend’s farm. I assisted in “velveting”, where the antlers are removed to be ground up for use as aphrodisiacs in Asia. (Prior to the sawing off of the antlers, the buck require powerful I.M. sedatives and supraorbital local anaesthetic injections.) Naturally, I attempted to inhale as much antler dust as possible. And then, after flying over Mount Cook, scaling Fox Glacier, fording Milford Sound, white water rafting on the Kawaru River, and learning how to speak Maori, it was back to the Great White North and the reality of classroom block.

As I gaze out my window at the falling snow, I know my memories of kangaroos and sisters’ uniforms will never fade. From the land of XXXX (Queensland’s brew) to the home of Victoria Bitter to the country of Steinlager (N.Z.), Down Under is tops in my book for a different perspective on medicine and for an education in life. Fair dinkum,* mate.

* Aussie equivalent of “really”. “no kidding”.

COMPUTERS IN MEDICINE:
An Elective at NIH

by Jack Tu
Meds ‘88

For the fourth-year elective in medicine, some stay at Western, others prefer places where they hope to intern and still others — the adventurers — go to African jungles or tropical paradises in the Caribbean. Shrewd scholars study dermatology on the beaches of Hawaii, while energetic students choose orthopedics at Vic. I decided to explore a new frontier — Computers in Clinical Medicine.

One day, while reading about possible elective opportunities in the Dean’s office, I came across a brochure describing the clinical electives program for medical students at the National Institutes of Health (NIH) in Bethesda, Maryland. One report that caught my attention came from a previous Western student who had done a Genetics elective there and had given it a glowing report and 10/10 rating in nearly every category. Upon further review of the NIH brochure, I noticed an opportunity for studying potential applications of computers in medicine. Having taught a computer programming course and successfully utilized computers in two science fair projects while in high school, I instantly felt rekindled enthusiasm for the advanced information technology. Without hesitation, I chose to spend two months in Bethesda during the fall of 1987.

While flying into the National Airport in Washington, D.C., I saw many famous landmarks such as the Washington Monument, the Pentagon and Arlington National Cemetary. The beautiful landscape made me feel that I had chosen the right elective; even if nothing else happened, I would at least have a good time sightseeing in the capital city of America. Upon arrival, I took the new subway up to Bethesda where I had arranged to stay.

The NIH is, as I soon discovered, much larger that I had expected. It is comprised of several buildings sprawled out over an attractive 300-acre campus, all dedicated to medical research. It reminds me of Western, only it is bigger and without all the students. At the hub is the Clinical Center, a 540-bed hospital that is not only the largest red brick building in the world, but also the world’s largest hospital dedicated solely to medical research. The Clinical Center is unique in that there is no emergency department. Patients are admitted only if they suffer from a disease that is currently being investigated under one of the research protocols there. In return for agreeing to participate in a study, the patients receive free medical care. It was here that the first trials showing AZT to be an effective drug in the treatment of AIDS were conducted.

As the principal sources of
funding for most of the medical research conducted in the United States, the NIH has an annual budget of $6 billion, 90% distributed to universities across the U.S.A. and around the world, 10% devoted to research on its main campus in Bethesda. Over 1400 M.D.’s and 1900 Ph.D.’s work on the main campus along with many post-graduate fellows and visiting researchers of different nationalities. Many of the researchers seemed to have unlimited budgets and equipment. In the building where I worked, almost every desk was equipped with expensive and powerful computers and accessories as well as whatever software was needed. Thus, it is not surprising to see some scientists working tirelessly in their laboratories for more than twelve hours a day, seven days a week.

Many distinguished American researchers either work at the NIH or have had part of their training there. Presently, there are three Nobel laureates on campus — Dr. D. Carleton Gajdusek, Dr. Julius Axelrod and Dr. Marshall W. Nirenberg. As well, Dr. Robert Gallo, co-discoverer of the HIV virus, works at the NIH. I was fortunate to have the opportunity of attending many inspiring lectures given by these and other outstanding scientists during my elective.

As one would expect, computers are widely used in a variety of ways at the NIH. Among the applications that impressed me most was the MIS - Medical Information System. This system was first implemented in the Clinical Center during the early 1970’s. At every nursing station there are computer terminals where information such as a patient’s admitting orders, daily medications and laboratory results are stored, permitting rapid retrieval of patient information and efficient processing of medical orders by medical and nursing staff. Such systems are gradually being introduced to hospitals all over North America.

Another interesting application is the Medline database accessed through the Grateful Med computer program on terminals throughout the campus. It is a computerized database developed at the National Library of Medicine and contains an indexed list of articles in all the major medical journals — a computerized Index Medicus. Through Grateful Med, a new and user-friendly program, people can easily do their own literature searches more comprehensively than ever before.

NIH is subdivided into 12 separate institutes — each of which conducts laboratory and clinical research in medicine. I was assigned to the Division of Computer Research and Technology (DCRT). In this institute, computer scientists and electrical engineers in collaboration with health care professionals develop computer systems that can be utilized in NIH clinics and laboratories. Because of my interest in using computers for medical decision-making, I was assigned to the Expert Systems Division.

Expert Systems are the result of a new application of computer technology that has rapidly developed during the 1980’s. They are computer programs designed to use artificial intelligence to simulate the ability of a human expert in a particular field. In the most common type of these programs, an expert’s knowledge is encoded in the form of a series of IF-THEN rules. For example, the Expert System I developed for treating cardiac arrhythmias, entitled AMA — The Arrhythmia Management Advisor, is based on series of rules for a cardiology program that go on like the following:

**IF** patient has atrial fibrillation THEN give Digoxin

**IF** patient is hypokalemic THEN Digoxin is contraindicated

**IF** Digoxin is contraindicated THEN give Verapamil

**IF** Verapamil is ineffective THEN give Propranolol.

These types of systems are steadily being developed and utilized in a wide variety of areas in medical practice. Among them there are well developed programs that can precisely interpret computerized EKG and pulmonary function tests. An interesting program that has recently become commercially available is DXP lain. Given a series of physical signs and symptoms, it could provide clinicians a list of diagnostic possibilities for consideration. Access to this program is now available to any physician with a computer and a modem — a telephone hookup.

Traditionally, expert systems have been developed through a series of interviews between a computer scientist and a medical expert through which the programmer tries to extract a series of decision-making rules by which the expert makes his decision; however, this process is prohibitively time-consuming for most busy clinicians. Fortunately, armed with my newly acquired basic knowledge of cardiology together with prior experience in computing, I was able to function simultaneously as both the programmer and the expert under the guidance of a DRCT computer scientist and Dr. Eben Tucker, an NIH cardiologist.

Since the management of cardiac arrhythmias is relatively well agreed upon by most cardiologists, I had no difficulty in organizing a base knowledge and a set of rules by reading major textbooks such as Harrison’s and the Medical Letter as well as the American Heart Association’s Advanced Cardiac Life Support Guidelines. After analyzing the recommendations contained in these references, I developed the decision-making rules which were reviewed and edited as necessary by Dr. Tucker, then programmed into a computer. Although at first it seemed to be a huge and formidable task, I soon discovered that to analyze the medical literature and extract the relevant information that may critically affect a patient’s management was an interesting learning experience.

At the end of the elective, all the students in the program were asked to give a presentation and write a report on the progress and development of their particular project. My AMA program was well-received and was considered to be worthy of publication after further refinement and clinical trials. I was surprised and encouraged by the positive comments and have since begun to collaborate with several clinicians for a systematic review of its clinical application. A copy of this program has now been installed in the Computer-based Learning Centre at Western for trial usage.

Looking back, my journey to the NIH was very rewarding, especially because I had the opportunity to see the advanced information technology that will revolutionize medicine in the years ahead. Computer programs and in particular, Expert Systems, will gradually come to play an ever-increasing role in our daily practice and continuing education. Although this technology is still in the developmental stage, it is important for us to be aware of the dawn of a new era in the evolution of modern medicine.
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