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## GUEST EDITORIAL

# The Global Environmental Challenge

Judith Read Guernsey,\* Ph.D.

*Guest Editor*

Beginning with Hippocrates, physician involvement in the recognition, evaluation and control of environmental health problems has had a distinguished history. Yet the current global environmental problems contain new dimensions which present challenges to our society. During this day and a half symposium in late April 1992, at Dalhousie Medical School, we heard about the impact of the population explosion, the hazard that the thinning ozone layer represents for the immune system, and the beginning trickle of "ecological refugees". How will these issues affect the practice of medicine in the twenty-first century? What should we, as health professionals, do about these problems? Because of the global nature of these problems, we can not prescribe "avoidance". Nor can we recommend "engineering controls" to combat, for example, loss of habitat biodiversity. We have met the enemy and they, indeed, are us.

A reflection upon western societal environmental protection traditions may guide us towards more proactive approaches to these global challenges. Perhaps the most significant historical influence upon the way we currently combat environmental problems has been the sanitarian movement of the early nineteenth century. Other influences include the torts system, the engineering tradition and the contributions of conservationists, and more recently, the ecologists.<sup>1</sup>

## THE SANITARIAN MOVEMENT

The efforts of Hippocrates, Ramazzini and others, as well as concerns for the appalling living and working conditions in European cities during the Middle Ages and Industrial Revolution, evolved into the Sanitarian Movement of the early 19th century. The essence of this movement was the association of a number of diseases with specific environmental conditions which resulted in the

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development of a public works infrastructure. Reliable sources of clean water were provided, sewage and wastes disposal were controlled, and even the first programs to ensure pure food and drugs were established. This movement vastly improved the health status of urban people around the world, despite the fact that the etiology of these diseases were not well understood at that time. Cholera, for example, was eliminated from most big European cities through the provision of clean water before the cholera vibrio had been isolated and identified. The sanitarian movement also significantly influenced the shaping of urban landscapes in Europe and North America. The need for plumbing efficiency encouraged close housing conditions. Furthermore, these early public health people associated malaria with swamp fumes, so swamps were drained throughout Europe and North America, and malaria vanished. Unfortunately so did much of the wildlife which depended upon wetland habitats for their existence.

The sanitarian traditions laid the foundation for modern public health practice. As Dr. Mastromatteo pointed out, a significant theme of this movement which is relevant to our current environmental protection efforts, is its reliance upon preventive action based upon anticipation of a possible detrimental health outcome, rather than waiting for the precise effect to become known. An instinct of the modern public health professional is to insist upon a "margin of safety" where there is a possible threat to human health. Today, occupational and environmental medical practice strongly reflects this philosophy.

### **TRADITION OF RECOVERING DAMAGES**

The tradition of attorney involvement in resolving environmental questions has evolved separately via the torts system. The tort laws are based on the British legal concept of rights to privacy and property as individual freedoms, and that one is entitled to recover damages from someone who harms your property or person. These laws are now commonly extended to questions of an environmental nature yet, unlike the public health people, who are willing to act on the possibility of harm, there is no legal equivalent to the concept of "margin of safety". In fact, the basis for legislated emission standards is on the premise that the concentration of a certain agent either causes harm or it doesn't, regardless of an individual's experience. Environmental protection is achieved through the enforcement of these standards which have been set according to scientific consensus of the harm involved.

### **THE ENGINEERING TRADITION**

The engineering tradition began as a technological response to the needs of the sanitarians. The early public works innovations created by civil and sanitary engineers have evolved into the current advances of environmental engineering. Engineers put forward the best available technology to reduce the concentration of an environ-

mental hazard to a required level. Unfortunately, the best available technologies often remove pollutants from the source, requiring placing them in another location – often to the detriment of the most pristine environment away from human settlements.

### **CONTRIBUTION OF CONSERVATIONISTS AND ECOLOGISTS**

The conservation tradition arose out of the sense that this earth represents, in its natural sense, a paradise and that we should resist its complete despoliation by human greed. Related to this idea is the view that there are important human health values to be found in nature, values that ought to be preserved for future generations. Dr. Santa Barbara articulated these concepts well, adding her own contribution to the Ottawa Charter: that each individual should have the right to experience natural beauty.

The ecologists have added to this their perceptions and scientific information that human actions have unintended impacts on natural systems; that the natural systems upon which all life ultimately depends are in balance which humans can upset; that what we see as separate environmental media – air, water, and land – are interconnected, as are all living organisms, within a continuously recycling system and that survival requires adjusting human economic activity as much as possible to resemble such systems.

### **INHERENT CONFLICTS**

There is an inherent conflict between our natural environment and our public health "environmental protection" technology. Environmental protection has, in reality, meant protection of human health from agents present in the environment – particularly those which were generated by human industrial activity. Furthermore, in designing this technology, we have developed open systems, regarding the natural environment as the buffer zone. In more colloquial terms, "dilution has been the solution to pollution". Western society has survived until now because a frontier could always be found – often at the expense of native societies or ecosystems. Yet, as Dr. Leaf points out, the evidence suggests that a change is in order.

### **THE CHALLENGE FOR THE FUTURE**

The problems which face this earth are vastly different than those which faced the early sanitarians. The questions of scale, the role of the ever expanding population, the impact of the international economy, the quest for higher standards of living by lesser developed countries . . . It is likely that we will need new technologies – not readaptation of the old – to deal with these problems.

The demographic trap, so vividly discussed by Dr. McCally, represents a significant threat to the survival of this planet. As less developed countries, with their rapidly expanding populations and lack of social support networks strive to achieve the economic standards that more

developed countries have attained, they are destroying their ecosystems. Our own country has been witness to destruction of sections of our west-coast rain forest and contamination of several saltwater estuaries – “nature’s nurseries” – in Nova Scotia because of population pressures. Scientists are predicting the trickle of ecological refugees to increase – we see evidence of this in the current plight of Somalians. Should we, as Maurice King suggests in *Lancet*, “refrain from advocating public health policies for other communities which, unappreciated by them, worsen their sustainability so they ultimately starve”?<sup>2</sup> These harsh words did not go unnoticed in our Saturday morning workshop. A more humane approach might be to ensure adequate planned parenthood programs, women’s education activities, and environmental planning for the region in question. We should also renew our political and financial support for the agencies such as the International Planned Parenthood Federation and the United Nations Population Fund.

The challenge that lies before us requires a reappraisal of who we are. The global environmental challenge requires a rethinking of the ways which we structure our neighbourhoods and cities. We must revisit our current “environmental protection” technologies and ensure that they indeed are environmentally sound. We should support integrated resource planning in zoning initiatives and in community development.

What about special initiatives in the medical community? Susan Holtz, a member of the National Roundtable on Environment and the Economy, outlined some thoughtful perspectives. She suggested that physicians support health care budget reductions so that some of the saved tax dollars might be used for global and local environmental initiatives. Physicians might serve as advocates and role models for lifestyle change. Furthermore, she suggested that physicians become active in promoting waste management programs in their offices and hospitals. Certainly there is much more that we can do.

#### References

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The following four papers were presented during a symposium on the Environment, “Ensuring Our Global Survival: The Medical Issues”, on April 24-25, 1992.

The year 1992 had been declared “The Year of Medicine and the Environment” by Dr. T.J. Murray, then Dean of Medicine, Dalhousie Medical School.



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# Physician Involvement

Ernest Mastromatteo,\* MD, DIH, DPH, CCBOM, MFOM

Toronto, Ontario

*"Man did not weave the web of life, he is merely a strand in it. Whatever he does to the web, he does to himself."*

Chief Seattle<sup>1</sup>

*"Environmental change threatens to create serious health problems and thus it is a special burden. [Physicians] have been educated and given a mandate by society to be guardians of its health. When issues portend such disastrous consequences to health, we must make them our concern."*

A. Leaf, 1989<sup>2</sup>

In public opinion polls, over 75 percent of Canadians currently consider that pollution of the natural environment presents risks to human health. In particular, there is a concern about the increased risk of developing cancer, reproductive effects, neurotoxic effects, multiple chemical allergies, and immunologic disorders from exposure to pollutants in our environment.

There is a need to clarify the relationship between the public perception of environmental risks and the scientific evaluation of such risks. Hertzman has commented on this point.<sup>3</sup> He noted that "the environmental movement is primarily an ethical and moral rearmament movement" and not a scientific movement, "although it will use scientific arguments when they fit. That creates an interesting tension between people who approach the environment from a scientific perspective and those who approach it as a member of the movement". The public perception of risks is higher for those of uncertain magnitude, for those that accumulate over time, and for those that may lead to health problems of the future.

Hertzman has also commented on another aspect of the public concern about environmental risks. "The health promotion movement, which has arisen out of the same spirit as the environmental movement, is specifically interested in health but its concept of health is quite different from the one that epidemiologists put forward." The prerequisites for health that are set out in the Ottawa Charter are: peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice, and equity.<sup>4</sup> The concepts of social justice and equity are as fundamental to health as the scientific understanding of the risk factors associated with individual contaminants in the environment.

Physicians and other health professionals should be outspoken in their scientific assessment of individual risk

factors in the environment but they should also distinguish between the scientific and the social issues in their assessments.

Historically, physicians have played a vital role in the identification, assessment and control of environmental risk factors and it is worthwhile to touch on this historical perspective.

## HISTORICAL MILESTONES

Hippocrates, the father of medicine, advised moderation in diet and drink. He was aware of environmental factors in disease and gave advice on the building of dwellings away from low lying areas where malaria was prevalent.

Georg Bauer (Agricola) served as health officer and mine doctor for over 15,000 miners in Bohemia and Moravia in the fifteenth century. He described diseases of the lung which we today recognize as pneumoconiosis and lung cancer. He also believed that spirits and goblins in dark underground mines presented health and other risks – particularly Kobold and Nick from which we get our words for cobalt and nickel.

A contemporary physician, Philippus Aureolus Theophrastus Bombastus von Hohenheim (Paracelsus), defended the use of mercury and arsenic in the treatment of syphilis in his patients. In his defence thesis he noted that "All things are poisons . . . the dose makes the poison." His thesis formed the basis of the science of toxicology.

Bernardino Ramazzini, an Italian Professor of Medicine, published the first definitive text on the diseases of occupations in 1700. Each chapter in his book dealt with a separate occupational group. The longest chapter was on wet nurses.

The period of the Industrial Revolution in Great Britain brought with it horrible working conditions for all workers but particularly for young children and females in mines. Textile workers suffered grievous injuries. The first occupational physicians were appointed factory surgeons called upon to treat severe traumatic injuries. The need for reform was sparked by social demands as well as the need by employers to correct unsafe conditions.

Louis Pasteur, a chemist, showed that microorganisms caused human disease. His work sparked the Sanitary Revolution in which physicians played a leading role. Waterborne epidemics of cholera and other diseases were brought under control. Physicians yielded their control function to sanitary and public health engineers after identifying the cause of trouble and the methods of control.

World War I showed the need to maintain the health and productivity of munitions workers. Dr. J.G. Cun-

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ningham, a medical officer in the Canadian Army, returned home to start the first governmental agency in Canada to deal with occupational and environmental health in 1920. Early studies were done on silicosis in hard rock miners, lead poisoning among painters, and problems among female workers.

The decade of the 1950s was marked by many epidemiological studies linking lung cancer to smoking, and to occupational exposure to asbestos, nickel, coal tars, radon in mining, and to certain compounds of chromium.

I consider that Rachel Carson's book on pesticides, published in 1962, marks the beginning of the current environmental and occupational health revolution. Carson questioned the release of persistent biologically-active agents into the environment where they appeared in the food chain of humans and animals. The public began to question more and more the potential long-term insidious hazards of chemicals in the workplace environment and in the general environment.

In recent years, a number of events have served to raise the public focus on environmental issues. These include the concern over global warming from fossil fuel emissions, the alterations in the ozone layer from accumulation of chlorofluorocarbons in the tropopause, and the possible increased risk of skin cancer, eye problems and alleged change in immune response. The incidence of malignant melanoma of the skin has been increasing at an annual rate of five percent per year and some researchers consider this to be related to ozone depletion in the atmosphere, while others dispute this association. Under the Montreal protocol, chlorofluorocarbon production will cease by 1995.

The UN Report on the Human Environment (Brundtland Report) has also served to focus public interest. This report stressed the need for sustainable development without environmental harm.

Current environmental concerns in addition to those cited above include the pollution of drinking water, with specific reference to the Great Lakes and the St. Lawrence watersheds; the occurrence of dioxins and furans in the environment; exposure to toxic metals in the environment such as lead, mercury, and arsenic; public and worker exposures to polynuclear aromatic hydrocarbons (PAHs); lead poisoning in children; use of synthetic chemical pesticides and herbicides; and exposure to ionizing radiation from natural sources (radon) and machine-made sources. These exposures also occur in the workplace.

More recently concerns have increased to include the health effects of exposure to electromagnetic radiation around electric transmission lines, the neurotoxic effects ("organic brain syndrome") from exposure to long-term and low level exposure to solvents, and the possible relationship of multiple allergies to chemicals in the environment (so-called "twentieth century" or "ecological allergy").

This historical introduction outlines some of the major health concerns from environmental pollution. As we race headlong to the 21st Century, it is a good time to take

stock, reflect and look ahead. What has been achieved by physicians working in the field of occupational and environmental medicine? What are today's failings, real or perceived? Are physicians playing as important a role as those outlined in the historical milestones?

In 1992, it seems to me that the physician's role is undergoing dramatic change. I may characterize the present period as a time of malaise or unease. The malaise is not serious – certainly not fatal – but it does afford a good time to reflect and refocus.

## THE PRESENT MALAISE

Trade unions, environmental groups, health promotion groups and other advocacy groups in society do not trust physicians or scientists unless they take a social outlook. Trade union leaders, sociologists and others have attacked the work of corporate and government physicians. Occupational and environmental health concerns appear now to be too important to be left to physician involvement, let alone program management. Physicians are not prominent among those professional groups appointed on governmental advisory posts or agencies dealing with occupational and environmental health. Lawyers are replacing physicians more and more in the assessment of the work-relatedness of disease.

Many of the alleged health effects from exposure to environmental agents suffer from great scientific uncertainty. Because it is impossible to "prove" scientifically that an exposure is safe, and because of the uncertainty of risk assessment at low doses or in situations involving small numbers of people, medical and scientific opinions are being relied upon to a lesser extent. This is particularly crucial with chronic degenerative diseases which have multi-factorial causes.

In the case of lung cancer, cigarette smoking has been attributed as the cause of about 85 percent of all lung cancers in males. How do we apportion the risk of lung cancer in an individual who smoked 1½ packs of cigarettes a day and who accumulated an estimated life-time occupational exposure to chrysotile asbestos of 3 fibres/millilitre-years? How do we apportion the risk of chronic obstructive lung disease in a worker who spent five years at the coal face and smoked one pack a day of cigarettes for 40 years? While the physician opinion is that the lung cancer or the chronic obstructive lung disease are unlikely to be associated with the job exposure, no one can completely rule out the possibility in the individual case of some occupational contribution. These examples help set the stage of the Present Malaise.

In 1990, Weeks published an interesting article with this catchy title "Occupational Medicine in Canada: An End or a New Beginning?"<sup>15</sup> In this article, the author asks very pertinent and direct questions: "Is occupational medicine necessary?" "Is it necessary for the occupational physician to be based within one work environment?" Of course, occupational medicine is necessary, but the questions are a reflection of the present malaise.

Similarly, Matthias and her colleagues used a provocative title to their paper: "Occupational safety and health:

A future unlike the past".<sup>6</sup> The authors carried out a study in Alberta involving long-range planning in occupational health and safety. The authors referred to the present as "turbulent times" with complex issues and difficult decisions. Turf battles and territorial battles among professional groups was a problem. Overall, the authors concluded that more trained physicians would be needed.

The Ontario Ministry of Labour released a background policy document on new directions in occupational health and safety in 1989.<sup>7</sup> The document with annexes covered 70 pages, but there is no mention of occupational physicians or occupational medicine in the policy paper. Does this mean that occupational medicine is irrelevant to health and safety policy in Ontario at the present time?

I would now like to examine some of the issues that have been cited as the cause for this malaise.

### **Credibility of Occupational Physicians to Workers**

Organized labour has concluded that physicians in the employ of corporations do not have the interests of workers at heart. Some unions have flatly advised their members not to use so-called "company doctors".

Organized labour in some provinces has lobbied for publicly-funded worker clinics managed by a board of directors with majority representation from labour. To some this has merely changed the "perception" of bias from the employer to organized labour. Occupational medicine must be neutral and professional wherever located.

Yassi noted that workers' clinics were intended to be proactive in stimulating health and safety legislation and/or changes in workers' compensation.<sup>8</sup> Yassi noted these disadvantages of worker clinics: they do not have access to the workplace, they cannot provide universal occupational health coverage, and they duplicate services offered by corporate occupational health services.

Professional credibility has also to be earned. Professionals will gain credibility if they do what is deemed right and proper under the circumstances. When professional recommendations are made in an area of scientific uncertainty, this uncertainty should be frankly discussed.

Certification of physicians is the practice of occupational and environmental medicine in Canada is an important way to provide professional credibility. Certification of occupational physicians was started by the Canadian Board of Occupational Medicine in 1980 for full-time physicians. Since then about 140 full-time practitioners have been certified. In recognition of the fact that most of the occupational health services are provided by physicians employed part-time, the Canadian Board of Occupational Medicine began the certification of part-time occupational physicians in 1990.

In 1984, the Royal College of Physicians and Surgeons began the certification of physicians in occupational medicine. The first fellowship was granted by the Royal College in 1988.

In 1988, the Canadian Medical Association published a very useful guide entitled, *Provision of Occupational*

*Health Services - A Guide for Physicians*. It defines the objectives of an occupational health service, the role of the occupational health physician, the essential and elective components of an occupational health service, management/worker relationship, information storage and collection, and the confidentiality of worker health records. It also offers advice on the inappropriate use of occupational health services; eg., the use of the occupational health service to police absenteeism and sick leave abuse, or to exclude prospective workers from jobs because of anticipated liability under the sickness benefit or workers' compensation plans.

In my own personal view, occupational medicine is a part of preventive medicine. In the U.S., the accrediting body, the American Board of Preventive Medicine, provides professional certification in public health, general preventive medicine, occupational medicine and aerospace medicine. It is unfortunate that the Royal College fellowships in Community Medicine did not permit free-standing certification in occupational medicine under its umbrella. The specialties have a number of common core subjects. It is essential, however, that the specialty of occupational medicine remain a free-standing medical specialty.

### **Professional Independence**

The goal of occupational health is worker health protection and promotion of good health. The goal of environmental health is public health protection and promotion of good health in the general public. Health professionals must assure that these goals are met without compromising professional independence. The International Labour Office Convention and Recommendation on the provision of occupational health services, stresses the need for professional independence.

As noted above, there is a "perception" of bias if the health service is provided by the employer or by organized labour. Alternative systems are clearly needed which would eliminate the perception of bias. For example, occupational health services could be provided through community health centres staffed by competent health professionals. The centres would have management boards comprising equal representation of labour, employers, the public and health care givers. To make such a system work, it would seem to me to be necessary to have mandatory occupational health services for all firms employing over a certain number of workers (eg., 100 or more) and all firms with designated health risks. Since these occupational health programs will carry out health surveillance of workers, prevention of occupational diseases and promotion of health among workers, the funding of such clinics should come from both health insurance and employer sources. This approach is recognized in Sweden where occupational health services are funded on a 60:40 basis by the employer and health insurance plan.

Employers and unions are, of course, free to retain independent health professionals for specific health consultation. The professional staff of the community

health centre could serve in an advisory capacity to both sides of the joint safety and health committee when invited to do so.

In cases where compensation, disability benefits, retirement benefits or other worker benefits are at issue, I believe that independent physicians or panels should be used. The family physician can fill the role of advocate for his or her patient, but if the employer or insurance carrier questions the basis for the family physician's decision, it would be preferable to have the opinion of a neutral physician or panel as opposed to the occupational physician.

### **Lack of Unified Employer Viewpoint**

In Canada, management suffers from the lack of a unified voice on safety and health issues. There are numerous management organizations with sectoral interests—Canadian Chemical Producers, Canadian Petroleum Association, Canadian Mining Association, Canadian Manufacturers Association, Canadian Federation of Independent Business—but no overall organization like the Canadian Labour Congress at the national level or the provincial federations of labour at the provincial level. Sweden has a single national federation of business and two for labour—one white collar and one blue collar. Each federation speaks for its membership.

Organized labour with its single voice has exploited this advantage. Organized labour makes frequent submissions and lobbies for government standards or grants in occupational health. When the Swedish head of the National Board of Occupational Safety and Health visited Canada some years ago, he advised labour to push hard for improvement of occupational health and increased empowerment of workers as a way of increasing union membership.

One area of management indifference is troublesome to me. When asked to recommend management representatives to joint safety and health committees or agencies, management often nominates the medical director or the industrial hygienist. This reinforces the union perception that physicians and hygienists employed by corporations represent the management point of view.

### **Piece Meal Approach to Occupational and Environmental Health by Government**

I have, for some years, been interested in the need for an independent scientific body to deal with occupational and environmental health issues. When worker and public concerns are raised about a specific hazard, the regulatory agency may make a statement about the health risk. I do not think it is appropriate for the regulatory agency which has responsibility for enforcement to pass on the adequacy of its control procedures. An independent agency would, in my view, have these functions:

- Carry out identification and evaluation of occupational and environmental risks on a priority basis.

- Set up independent panels to make recommendations on health risks of worker or public concern.
- Consolidate research funding and made research grants on a priority peer-reviewed basis.
- Initiate study of the training and education needs for occupational health.

A serious difficulty in recommending an independent agency on the human environment is the cost involved. In Ontario, for example, I believe the resources exist but they are scattered over several agencies including:

- Ontario Workers' Compensation Institute
- Industrial Disease Standards Panel
- Ministry of Labour Health Studies Group
- Ministry of Health Environmental Group
- Ministry of the Environment staff

It seems to me that this piece meal approach has resulted in resources scattered in different organizations with overlapping mandates. I would prefer consolidation of these resources into a single agency to deal with occupational and environmental health—an agency independent of the regulatory function.

### **"Turf Battles"**

With the rapid proliferation of specialty groups—ergonomists, employee assistance counsellors, stress management consultants, kinesiologists, physical fitness consultants, occupational psychologists, ecological allergists, indoor air quality experts, environmental physicians, occupational toxicologists, loss control specialists—there is a blurring of professional boundaries.

Occupational hygienists are assuming more visibility on governmental advisory bodies and in the management of corporate occupational health programs. Both occupational hygienists and occupational physicians are agreed that a fully integrated occupational health services involves a multidisciplinary team in which both hygienists and physicians have their roles.

### **Occupational Health Services for Small Plants**

In the Ontario manufacturing and retail industry, about two-thirds of employers have fewer than six employees. Information from Ontario's manufacturing and retail industry is shown in Table I.

The difficulties of servicing the small industries exist everywhere. About two-thirds of firms employ five or fewer workers. They are difficult to serve yet they have the best accident experience.

TABLE I

ONTARIO MANUFACTURING AND RETAIL FIRMS  
1989

Firm Size	Number of Firms	Percent of Firms	Number of Workers	Percent of Workers	Injury Frequency Per 100 Workers
1-5	45,139	63.3	91,513	5.8	4.09
6-24	17,729	24.9	202,035	12.9	5.52
25-49	3,864	5.4	133,161	8.5	6.71
50-99	2,268	3.2	156,236	10.0	7.02
100-149	784	1.1	95,684	6.1	7.46
150-249	639	0.9	123,133	7.9	7.18
250-499	525	0.7	181,034	11.5	6.50
500-999	240	0.3	162,650	10.4	5.54
1000+	144	0.2	421,999	26.9	5.93
Total	71,332	100 %	1,567,455	100 %	6.16

The only solution appears to locate occupational health clinics in an area which services many small clinics. Mobile services are used in some services for scattered small industries. These workers can be covered with proper resources and planning.

Before making my own recommendations I will review recommendations on occupational and environmental health made by others. In the United States, a major consultation involving government planners and 300 outside organizations were carried out to produce a blueprint for the year 2000. This report has been published.<sup>9</sup> The report contains quite detailed recommendations in the form of objectives to be reached by the year 2000. These objectives could readily be adopted for use by any Canadian province. Some of the recommended objectives for 2000 are noted below with particular reference to occupational health:

- Reduction of worker deaths to 4 per 100,000 (1983-1987 average; 6 per 100,000)
- Reduction of accidents to 6 per 100 full-time workers (1987; 7.7 per 100)
- Reduction of cumulative trauma disorders to less than 60 per 100,000 full-time workers (1987; 100 per 100,000)
- Reduction of occupational skin disease cases to less than 55 per 100,000 full-time workers (1983-7 average; 64 per 100,000)
- Reduction of Hepatitis B cases in workers to 1270 (6200 in 1987)
- Increase seat belt use to over 75 percent in companies with 75 or more workers.
- Reduction to 15 percent of workers exposed to 85 dBA or more

- Elimination of all lead exposures which result in a blood lead above 25 micrograms per decilitre.

The Canadian Medical Association Subcommittee on Occupational and Environmental Health has been very active in the occupational and environmental health fields. The Subcommittee has produced a number of useful publications including a physician's guide to the provision of occupational health services<sup>10</sup> and a policy paper on health, the environment and sustainable development.<sup>11</sup>

In its recent deliberations, the Subcommittee has recommended that a federal-provincial task force be established to review occupational health services in Canada and make recommendations for their improvement. The Subcommittee has prepared a draft publication entitled *Occupational Medicine in the 21st Century*. The draft proposals include the following:

- Occupational health services will be part of the Canadian health care system.
- All Canadian workers will have ready access to occupational health services.
- The 35 percent of workers employed in large plants will have in-plant services. The remaining 65 percent will be serviced by group or community-based occupational health services.
- Quality assurance standards will be guaranteed by accreditation.
- Professional independence of the physician will be assured.
- The proposals will provide a career path for occupational health physicians.
- A system of personal job records useful for epidemiological studies will be developed.
- A national occupational and environmental health and safety institute is proposed.

At the moment, these are all ambitious proposals which I hope will generate response and input from interested physicians across Canada.

There are other developments which may affect occupational and environmental health in Canada. The European Economic Community (EEC) is developing occupational and environmental health standards for all EEC countries. There are some pressures for Canada to harmonize its occupational and environmental standards with the United States in keeping with the Free Trade Agreement.

A major concern in all countries is in the education and job training of young persons for the workplace. Those countries with a poorly-trained workforce will suffer in



comparison with countries with highly-trained and motivated workers.

## RECOMMENDATIONS

It is now time to draw together these wide ranging comments and present my own views for the development of occupational and environmental health in Canada and for the active role of physicians in these activities. My recommendations are noted below. These reflect the bias of my experience.

### **Occupational and Environmental Medicine is a Distinct Medical Specialty**

The voluntary efforts of the Canadian Board of Occupational Medicine is accrediting 140 physicians over the last decade has been a great achievement.

### **Specialist in Occupational and Environmental Medicine**

This title should be restricted to those physicians with professional training, experience and accreditation in occupational and environmental medicine by the Royal College of Physicians and the Canadian Board of Occupational Medicine.

### **Provision of Occupational Health Services for All Canadian Workers**

Occupational health services are essential services dedicated to the health of those who by their work contribute to the productivity and quality of life as we know it in Canada. Many types of occupational health services are now provided including company, private contractor, worker, hospital, university or voluntary services. Services may be in-plant or located off-site. The current services cover only a small proportion of Canadian workers. There is some duplication of effort. Some services are administered by persons without professional qualifications. Efforts should be made and goals established for the provision of occupational health services to all Canadian workers.

### **Independent Study of Occupational Health Services for Canadian Workers and the Best Way to Meet These Needs**

I believe this is indicated on a provincial basis. Because of the ad hoc funding of worker clinics in Ontario, I believe it would be desirable to have a study made of what is best for workers at this important time of socioeconomic change.

### **Type of Occupational Health Services**

I would propose that the organization, structure, administration, objectives and activities outlined in the ILO Convention and Recommendation be followed. The ILO instruments recommend that the services be in or as near as possible to the workplace and that they cover all employment sectors – public and private – by changes. It is impossible to detail all the steps needed to provide an

independent occupational health service. They include: statutory provision of occupational health services; financing by the employer; service delivery by a multi-disciplinary group; in-plant services for large plants; control facilities for groups of small plants; boards of directors comprising equal representation of workers, employers and the public; confidential records; consultation and training provided to both workers and employers; annual report and audit; and independence from employers and unions.

### **Development of Occupational Health Standards**

Ontario has switched to the development of occupational health standards based on bipartite committees drawn from organized labour and employers. I believe that the public interest maybe missed in achieving bipartite consensus. I would prefer standard setting to follow this approach:

- Development of an independent scientific assessment of the risk
- Preparation of a proposed standard by the regulatory agency taking into account the risk assessment, social and economic factors
- Public discussion and input on the proposed standard open to all interested persons including stakeholders
- Preparation of a final standard by the regulatory agency based on evaluation of the public input

### **Bipartite Representation on Boards of Directors of Governmental Agencies**

Ontario is moving to bipartite stakeholders on governmental bodies such as the Workers' Compensation Board, the Workplace Safety and Health Agency, and in standards development as noted above. Organized labour is, as its name suggests, organized and speaks in one voice. Unfortunately, employers are not so well organized. Moreover, I think the public interest in these agencies should still warrant public representation.

### **Establishment of Federal/Provincial Education Resource Centres for Occupational Safety and Health**

This recommendation is based on the 10 educational resource centres (ERCs) funded by government in the United States. In the U.S., the ERCs are located geographically across the U.S. They provide undergraduate and post-graduate training in occupational and environmental medicine, industrial hygiene, occupational health nursing, ergonomics, and related areas.

Admittedly, these are difficult financial times for both universities and for governments. I would encourage, however, consideration of some national plans for ERCs funded from the Green Plan. It seems unfortunate that

funds for education and training needs in occupational and environmental health are drying up when the need is becoming greater. This recommendation would require federal-provincial cooperation.

It would seem to me that ERCs could be distributed across Canada as follows: the four Maritime provinces, Quebec, Ontario, the two prairie provinces of Manitoba and Saskatchewan, Alberta, and British Columbia. An Alberta ERC based in Edmonton could serve the Yukon and Northwest Territories.

The Canadian model in terms of funding could be drawn from the U.S. experience. Many of the U.S. ERCs have achieved an excellent status as post-graduate and research centres.

#### **Establishment of Chairs in Occupational and Environmental Medicine in Each Health Science Centre in Canada**

The funding for such chairs would be difficult. Some funding may come from the development of ERCs if these are developed in Canada. In Britain, Sir Alex Jarratt has suggested that employers fund such chairs since it is their operations which give rise to questions of occupational and environmental safety and health.

#### **Establishment of Independent Centre on the Human Environment**

This recommendation was discussed earlier. I believe that there is need of an agency that is independent of the regulatory agencies and of self-interest groups. Such an agency could be modeled on a combination of NIOSH (National Institute of Occupational Safety and Health) and NIEHS (National Institute for Environmental Health Sciences) in the U.S. The agency would serve to carry out independent scientific risk assessment on issues of public concern, develop priorities for research, consolidate research funding in these agencies, and fund needed research through an appropriate peer review mechanism. I believe that better use of workers' compensation data and medicare data can be made to assess the impact of occupational and environmental risk.

#### **Establishment of a Canadian Journal of Occupational and Environmental Medicine**

For too long, Canadians have had to publish their scientific contributions in occupational and environmental medicine in foreign journals and this has served to hide some important Canadian contributions in these fields. While the general medical journals have published in these fields, they have on occasion rejected manuscripts on the basis of lack of general interest. I recognize the financial and other pitfalls in the start-up of a new journal, but I still hope that Canadians can move to this goal.

I realize that many of these recommendations represent a dream list of what I would like to see in terms of the development of occupational and environmental medicine in Canada. I hope some of these objectives can be

considered and perhaps even achieved so that Canada can enter the 21st Century better armed and better prepared to:

1. Identify yet unrecognized occupational and environmental health risks
2. Evaluate the extent of these risks
3. Recommend the implementation of control strategies to minimize or control these risks

I should, however, leave some other recommendations of a more mundane nature for consideration.

#### **Ensure Adequate Undergraduate Teaching in Occupational and Environmental Medicine**

I realize the pressures on undergraduate curricula. For this reason, I think it would be preferable to have a basic core for the pre-clinical and clinical years but also to integrate these subjects into the general curriculum – eg., Miller's asthma or isocyanate asthma in the teaching on allergic respiratory disease; the placement of pregnant females at jobs which will present harm to the foetus in the teaching of obstetrics and gynaecology; the neurotoxic effects of metals and solvents in the teaching of neurology; etc. The undergraduate coverage should emphasize the multi-disciplinary nature of these fields and the need to work with multi-disciplinary teams.

Undergraduate education should also extend to engineers, chemists, business administrators, lawyers, and others so that they will have, at least, an awareness of these issues.

#### **Develop Post-Graduate and Continuing Education Programs in Each Health Science Centre**

Resources for post-graduate training of physicians and other occupational health professionals should be an integral part of the medical school program. Continuing education programs including short courses should be provided for family physicians, public health physicians and others on such topics as: environmental cancer, neurotoxic effects of environmental agents, pesticides, health aspects of welding, organization and administration of occupational health services, developments in toxicology, reproductive hazards, etc.

#### **Carry Out Research Activities on Occupational and Environmental Health**

There are current funding sources and I would encourage health science centres to develop a specific research area in keeping with their resources.

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In addition to teaching and research, physicians and academicians have a responsibility to serve the public. This can be done by several means including the following:

- *Serve on occupational and environment health committees of provincial medical associations.*
- *Speak to technical and lay groups on the medical aspects of exposure to agents in the workplace and in the general environment.* Occupational and environmental pollution are often socio-political issues. There is no harm in physicians taking a stand on socio-political issues but socio-political advocacy should be distinguished from scienti-fic advocacy.
- *Serve on technical committees, advisory bodies, environmental assessment committees, etc.* I realize this recommendation will present difficulties for some physicians in active practice with patient visits to schedule and lost income. I believe, however, that physicians have also a duty to the communities they serve. I would also encourage that such volunteer work compensate participants for out-of-pocket costs.
- *Become involved in specialty groups and take part in scientific programs.* For practising physicians working part-time this may be a problem but by judicious use of time and resources, physicians can maintain continuous education and have interchange with their colleagues.
- *Be a model to the community.* Physicians should be aware of the proper disposal of sharps and biomedical

wastes, packaging, and single-service equipment. Physicians are the recipients of many journals, mailings and packaging materials. Physicians should apply the three "Rs" to pollution in this regard: reduce, reuse or recycle. □

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# Rethinking Our Perspectives

V. Joanna Santa Barbara,\* MB,BS, FRANZCP, FRCP(C)

Hamilton, Ontario

*"Our own pulse beats in every stranger's throat,  
And also there within the flowered ground  
beneath our feet,  
And - teach us to listen! -  
We can hear it in water, in wood,  
and even in stone.  
We are earth of this earth, and we  
are bone of its bone.  
This is a prayer I sing, for we have  
forgotten this and so  
The earth is perishing."*

Barbara Deming<sup>1</sup>

In rethinking our perspective on environmental issues it may help to step back, way back, in time and space. We can look at the earth, bright sphere of blue and white, hanging in the black deeps of space. So far as we yet know, it is unique in the wonderful, seething, complex outer layer of interwoven life that floats on its core of molten rock. A few kilometres thick, from blind fish in ocean trenches to as high in the air as birds fly, this amazing biosphere has evolved as a balanced, interdependent web of life.

As part of this web, humans evolved. For almost all of their millions of years on earth, they/we lived as part of the biosphere, eating, burning and using as tools other elements of the biosphere and its supporting rocks, clay and minerals. Our interaction with the plants, animals, atmosphere and earth remained within the abundant capacity of the web of life to regenerate tears in its structure. As we trained our astonishing intelligence on parts of nature, it came about that we forgot that we were part of nature too. In cultures where domination of each other was a prominent ideology, domination of nature came to be built into that ideology.

Let us proceed with our self-examination of the way of relating to the rest of the biosphere that has resulted in the risks described by Alexander Leaf. We need to look at some intellectual assumptions that form this perspective. Important ideas rarely originate in one person's mind, but when a person very clearly expresses and promulgates ideas, their name becomes attached to them. Bacon, Descartes, Locke and Adam Smith are names attached to certain ways of regarding and interacting with the biosphere. Their ideas, passed through many other minds, are in our heads and in our culture, and affect our own interactions.

Francis Bacon, in seventeenth century England, formulated ideas about scientific method as a way of studying nature. These ideas and their further development have been important ever since, and underlie our own disciplines. Such a tool of understanding can facilitate working in harmony with nature, balancing human goals with sustaining the integrity of natural systems. This was *not* how Bacon saw the use of scientific method. His writings are pervaded by values of domination, coercion and control. Nature could, he said be "forced out of her natural state and squeezed and moulded." We have, he said "the power to conquer and subdue" nature and "to shake her to her foundations." The goal was to "establish and extend the power of dominion of the human race itself over the universe." He referred to nature as a "common harlot" and called on his contemporaries to subdue and enslave her forces.<sup>2</sup>

Jeremy Rifkin, who has examined Bacon's contribution to current assumptions about our relationship to nature in *Biosphere Politics*, comments that this helps us understand why a third of all the scientists in the world work on military-related research and development; most of the rest serve multinational companies in exploiting and commodifying nature.<sup>3</sup>

René Descartes captured the seventeenth century fascination with the development of machinery. Descartes, a brilliant thinker whose discoveries in mathematics continue as useful tools, saw himself, like Bacon, as standing outside nature and operating upon it. Nature could be understood as a gigantic machine, a piece of complex clock-work. You could pull it apart intellectually and examine the pieces. Mathematics was the supreme tool by which to do this. Animals, Descartes said, were "soulless automata". If they whimper or scream, it is not to be understood as pain, but as noises from their automatic mechanisms. By the use of mathematics, Descartes declared, we can "make ourselves masters and possessors of nature."<sup>4</sup>

Adam Smith, in eighteenth century Scotland, also seeing himself standing outside of nature, considered human economic activity, i.e. how we amass and exchange our borrowings from the biosphere and the geosphere. He prescribed that each person, acting in their own self-interest, should amass as much as possible. This activity needed to have no reference to the impact on the natural world, or on the lives of people whose labour was a commodity, such as children in mines and factories or slaves in fields. Like Cartesian clockwork, the laws of supply and demand in the marketplace were sufficient to regulate economic activity. No other values were deemed relevant. These ideas are extremely pervasive currently. They have a great deal to do with the

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generation of the problems you've just heard about, and the difficulties of reversing them, even when we know about their causes. What they mean, behind the euphemisms, is that our interactions with the biosphere are best regulated by conflicts of human greed.

Finally, English political philosopher John Locke strongly reinforced ideas about standing outside of and exploiting nature. Nature had no intrinsic value, but only utilitarian value as raw resources and spare parts for human use. "Land that is left wholly to nature is called, as indeed it is, waste."<sup>5</sup> (Consider that, next time you hike or canoe through your province's "wastelands.") Locke recommended the pursuit of self-interest and the accumulation of as much gold and silver as possible. He said, "The negation of nature is the way to happiness."

The negation of nature – we have observed the happiness it brings: fishing communities disintegrating because the cod have gone; children sitting at their lessons in Mexico City, wearing gas masks . . . and so on. We begin to know better, to know that we do not stand outside nature. We are part of the biosphere. If we do not harmonize our activities with the rest of the web of life, we will die, taking a large number of other species with us to extinction.

Some among us knew this all along, even before our population numbers and technological domination reached such dangerous levels. Standing and looking over my shoulder at you is Chief Seattle, who led the Pacific D'wamish tribe a century ago. On my other side is an older woman of the Micmacs who used to live here before Europeans came. Chief Seattle speaks:

"The perfumed flowers are our sisters; the deer, the horse, the great eagle, these are our brothers. The rocky crests, the juices of the meadows, the body heat of the pony, and man – all belong to the same family . . .

The rivers are our brothers, they quench our thirst. The rivers carry our canoes and feed our children . . . you must henceforth give the rivers the kindness you would give any brother . . .

The air is precious to the red man, for all things share the same breath – the beast, the tree, the man, they all share the same breath . . . the air shares its pride with all the life it supports . . .

What is man without the beasts? If all the beasts were gone, men would die from a great loneliness of the spirit. For whatever happens to the beasts soon happens to the man. All things are connected . . .

. . . Teach your children what we have taught our children, that the earth is our mother. Whatever befalls the earth befalls the sons (and daughters) of the earth. If men spit upon the ground, they spit upon themselves.

This we know. The earth does not belong to man; man belongs to the earth. This we know. All things are connected like the blood which unites one family. All things are connected.

Whatever befalls the earth befalls the sons (and daughters) of the earth. Man does not weave the web

of life; he is merely a strand in it. Whatever he does to the web, he does to himself . . ."<sup>6</sup>

So we are part of the biosphere. Our bodies are temporary aggregations of molecules borrowed from the biosphere and atmosphere. Your body today, depending on what you've been eating, has molecules that have recently been on agribusiness plantations in Chile, Florida, Argentina. Also herbicide, pesticide and preservative molecules that came from Dow and Shell factories to those agribusiness areas and so to you. In your lungs you have material from surrounding factories and vehicles. From what you've drunk you've derived water and a large number of chemical pollutants that have leaked in. You *are* the biosphere, the damaged biosphere is you.

This leads us to an expanded understanding of human health. Human health is indivisible from ecosystem health. We must now understand health as physical, mental, social and ecological well-being.

The Canadian Public Health Association (CPHA) has just published a remarkable document called "Human and Ecosystem Health."<sup>7</sup> This paper goes far beyond attributing ecological ills to too much chlorofluorocarbon and carbon dioxide in the atmosphere and to PCBs and DDT in the water. It says squarely that human values, what we think is important, are the problem. They name materialism, domination, militarism, a valuing of indefinite growth, selfishness, greed and elitism. We have traced these values back some centuries as expressed by Bacon, Descartes, Smith and Locke, and have seen how they have shaped our minds.

The CPHA makes it clear that there is no rational choice but to move as quickly as possible into a sustainable and therefore harmonious relationship with the other elements of the biosphere.

What is sustainability? An Ontario organization called Guideposts for a Sustainable Future gives the best criteria I've seen anywhere.<sup>8</sup>

*Activities are sustainable when they:*

1. use materials in continuous cycles
2. use continuously reliable sources of energy
3. come mainly from the potential of being human, i.e. communication, creativity, coordination, appreciation, and spiritual and intellectual development.

*Activities are not sustainable when they:*

4. require continual inputs of non-renewable resources
5. use renewable resources faster than their rate of renewal.
6. cause cumulative degradation of the environment
7. require resources in quantities that could never be available for people everywhere.
8. lead to the extinction of other life forms.

These criteria have quite profound implications. Applying them in your personal, family and professional life is a fascinating process. Can you shop without accumulating any packaging? Do you continue to eat

meat? Can you keep your house clean without commercial cleaning products? What about all those disposable medical products?

Applying these criteria on a larger scale makes us recoil. We need economic growth – right? More trees into paper, more coal burned for energy, more oil burned for fuel, more cars, more appliances, more everything needs to be made, purchased, consumed and discarded. Canadians consume more energy per capita than anyone else in the world and produce more garbage per capita than anyone else. And we must exceed that consumption to speed up economic activity, we're told. In the present context, the alternative is that 10% and more of us are excluded from participating directly in the economy at all.

When we pay attention to the four-fifths of humanity in economically deprived countries, the message is often that they too must speed up their economies to produce more goods for the global market, use more energy and acquire more currency so they can have cars, supermarkets, Coke and baby formula just like us. The International Monetary Fund and World Bank promote megaprojects, which are very serious environmental catastrophes. In China, over a million people are about to have to move as their villages are flooded for the world's biggest hydro-electric project. In India, discrete tribal cultures have come extinct in this way. Whole human systems and whole ecosystems are drowned in the rush to speed the global economy. Generally the beneficiaries of these projects are the multinationals who build them, or negotiate commercial rights in the country in exchange for funding, and the wealthy and powerful elites of the country. Wealth is supposed to "trickle down" to the poor.

The planet cannot sustain the overheated exploitation of its resources by the one billion of us in the industrialized countries, much less the effects of the other four billion of us consuming and polluting at the same rate. We have some serious rethinking to do, beyond the false panacea of "economic growth".

Some of this rethinking is going on now among environmentalists who are experimenting with living in new relationships with biosphere. It involves working out the "carrying capacity" for humans and their related economic activity in what are called "bioregions". Soft energy paths, methods of agriculture that do not deplete the soil or fill it full of chemicals are being developed. Life styles that minimize consumption of commodities are being lived. This is the very beginning of working out a harmonious relationship with the biosphere. We had better pay serious attention to these experiments. Our survival depends on them.

As physicians concerned with global health, we cannot provide all the answers to what a sustainable economic system will look like. We can however lend our weight to the values made explicit by the Canadian Public Health Association. These are:

- *Human development*: the attainment of full human potential

- *The web of life*: the preservation and enhancement of other life forms and the maintenance of the integrity of the ecosystem has merit in itself in addition to its value to humans.

- *Future generations*: we have a duty to ensure that a quality of life and of environment at least equal to that which we enjoy. (Native peoples apply the criterion of benefit to the seventh generation hence. These are different ways of stating the necessity of sustainability.)

- *Equity*: an equal opportunity for all to be healthy. Basic human needs must be met for everyone and wealth must be distributed fairly.

- *Adequacy*: a form of economic activity that, while environmentally and socially sustainable ensures there are enough material and non-material resources for the attainment of full human potential.

I would add to this principle:

Where excessive material resources are being consumed, there is a need to scale *down* to levels of sufficiency.

- *Participation*: people's fundamental right to be informed and participate fully in decisions which affect their lives, health and well-being.

I should like to add to this another value that seems threatened to me:

- *Beauty*: all of us have a right to easy access to the indescribably beauty of natural places.

Who of us hasn't felt inner pain at the sight of clear-cut forest, drained wetlands, landscapes converted to shopping malls? This value has been over-ridden by the privatization and commercial exploitation of nature. Beautiful landscapes by the week are turned into "Forestview Executive Developments" Condominiums and "Pinelands Townhouses". The North American forester-ecologist Aldo Leopold far preceded others in proposing a truly ecological ethic. In 1949 he wrote, "A thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends otherwise."<sup>9</sup> F. Schumacher, the iconoclastic economist who wrote *Small is Beautiful* several decades ago, in writing about the "economics of permanence" (his term for sustainability), said, "Wisdom demands a new orientation of science and technology towards the organic, the gentle, the non-violent, the elegant and the beautiful."<sup>10</sup>

Chief Seattle is again looking over my shoulder and says, "The sight of your cities pains the eyes of the red man . . . There is no quiet place in the white man's cities. No place to hear the unfurling of leaves in the spring or the rustle of insect's wings . . . And what is there to life if a man cannot hear the lonely cry of the whippoorwill and the

arguments of the frogs around a pond at night? The Indian prefers the soft sound of the wind darting over the face of a pond, and the smell of the wind itself, cleansed by a midday rain or scented with the pinon pine ..."<sup>11</sup>

Now we must show some more linkages. We have been looking at relationships between health, environment, economic activity and human values. There are important linkages between militarism and abuse of the biosphere. Militarism embodies the value that violence to others or the threat of violence is to be used to coerce others to do your will. It is not surprising that institutions that incorporate this value relate destructively to the environment. (Needless to say, armies directly involved in twenty-odd wars raging in the world now, are catastrophically damaging to human health in the regions of their operation. They also, in some cases, deliberately destroy health care systems).

The effects of militarism on the environment, therefore on human health, are gross.<sup>12</sup> The following data are quoted from *Taking Stock: the impact of militarism on the environment*, a report released by Canadian Science for Peace last month.<sup>13</sup>

- Global military spending has reached one trillion dollars per year. Yet there is said to be a lack of funds for monitoring global climatic change or providing drinking water for the world's populations.
- The world's armed forces are the single largest polluter world-wide. Up to 30% of global environmental degradation can be attributed to military activities.
- While you and I worry, as we should and must do, about how to change from our cars to bicycles, the Pentagon is the largest consumer of oil in the U.S. possibly in the world. Annual oil purchase for the Pentagon is enough to run all U.S. public transit systems for 22 years. In half an hour an F-16 fighter plane uses the annual fuel supply of the average U.S. motorist). This means that the U.S. military contribute massively to the green-house effect. World Watch Institute estimates the contribution of all military emissions to the world-wide greenhouse effect may be 10%.
- Clean-up costs at Canadian Forces Base Halifax are estimated to run over \$20 million over the next 10 years. Environmental threats at that base include fuel leaks, spills and storage problems.<sup>14</sup> This is a worldwide problem. It affects 35 Canadian bases and 1000s of sites throughout the world. Wherever the military deposits its devices for killing, it poisons the earth beneath it with scores of lethal and sometimes radioactive substances. The horrors of Soviet bases in Eastern Europe are just now coming to light. Harm to human health and the environment may be the Cold War's most enduring legacy.

- Ozone depletion is contributed to substantially by the military. In the U.S. military and weapons plants produce 37% of all CFC-113 emissions – a major cause of ozone damage. Quoting from *U.S.A. Today* of February 11, 1992, "The Pentagon says it is trying to use alternatives to CFCs in its procurement process but that contractors must demonstrate that substitutes meet military standards."

Despite these and other massive effects of militarism on the environment and human health, the U.S. did not permit this topic to be mentioned at the U.N. Conference on Environment and Development (the Earth Summit) in Brazil in June 1992. It cannot be spoken about. Environmental organizations, women's groups and youth groups and peace groups are protesting vehemently.

Another important linkage with human and ecosystem health is that with development towards sufficiency in food, shelter, fuel, clean water, basic health care and education for all the people in the world. The report of the previous World Commission on Environment and Development, *Our Common Future*, also known as the Brundtland Report makes it clear that global protection of the environment, and development towards sufficiency of the economically deprived portion of humanity must go hand in hand.<sup>15</sup>

Furthermore, both must be achieved by a cooperative effort of all nations, especially the wealthier ones. Again, in preparatory documents leading up to the UNCED conference, the U.S. had demanded the removal of nearly all substantial commitments of this type. This has left many wondering if UNCED, a multi-million dollar event, years in the making is worth proceeding with. I've had the opportunity to see some extraordinarily creative work in various arts and in science produced by Canadian school children as a lead-up to UNCED. Implicit was their trust that the leaders of the world, gathered together for the Earth Summit, would act to preserve their future. This won't happen. They have been betrayed.

Once again, the leaders of nation-states have shown their inability to act on behalf of the peoples of the planet and the other species with whom we share the biosphere. This is deeply troubling, but we should cease to be surprised and get on with the job. The power to change the world is where it always is and should be with ordinary people acting in solidarity. Quebec Cree working with New York environmentalists may stop the grave potential environmental damage of the James Bay II hydro-electric project. Without the work of a few dedicated people in the Acid Rain Coalition, it is unlikely that Canada and the U.S. would have taken meaningful action on this issue. People in Kazakhstan who believed nuclear testing was affecting their health succeeded in closing down the test site. The Innu of Nitassinan with the help of many other Canadian groups, stopped a NATO base for low-level flight testing being established on their land. And so on and so on. In Halifax, there is an energetic group who considers the periodic presence of scores of nuclear bombs in the city a threat to the physical and moral

health of the world, and acts on that conviction. The Halifax group of Canadian Physicians for the Prevention of Nuclear War has worked hard for years on issues of militarism and the environment. The health of the Innu in Nitassinan, and Iraqi civilians in that war-devastated country are particular foci of that group.

If politicians at the national level do so poorly at tackling problems requiring global cooperation, how can we help them? Halifax may drown from rising sea levels caused by global warming from the greenhouse effect. If you don't want Halifax to drown, together with a large part of Bangladesh and several other large cities and some whole island nations, *everyone* needs to cut down their carbon emissions. You need Brazilians to stop burning the rainforest and the Pentagon to cut its oil consumption. How do you do that if you're a medical student at Dalhousie? The politicians sit around saying "I will if you will. Ah yes, we can all agree to cut emissions by 0.1%. No, we certainly won't discuss the military contribution." One way is to do what the Acid Rain Coalition people did. They sent two persistent Canadians to hang around the corridors where the bilateral negotiations were being worked out. They nagged the negotiators, showed them the data and the inescapable conclusions. Another possibility is to bypass "I will if you will" and to move to "I've done it. Now I expect you to do your bit." Suppose Halifax cut its carbon emissions by a substantial proportion, by energy conservation, taxing "gas-guzzling" cars, putting in more bicycle paths, not permitting "monster houses" and so on. Then the city might go to CFB Halifax and ask for its operations to stop pouring tons of carbon into the air. From there, one could urge province-wide substantial cuts. This having been achieved would put Federal negotiators in a far stronger position to negotiate global reductions, especially if grass-roots groups in other countries had stimulated similar actions.

The Canadian Public Health Association suggests an action plan.

#### 1. *Setting an example*

- As a citizen, moving towards a sustainable life style.
- As a professional, ensure our hospitals and clinics have and adhere to an Environmental Code of Practice. Establish "Green Teams" in our practice settings. Make rational preparations for the effects of ecological decline eg. increases in skin cancer and asthma.

#### 2. *Professional education*

- We should act to ensure that as many health professionals as possible are well informed about ecosystem health issues.

#### 3. *Public Education*

- We should use opportunities to make the dangers and prevention measures as widely known as possible.

#### 4. *Knowledge development*

- We should monitor the health of local ecosystems, raise questions about local environmentally abusive

practices, and develop alternatives to problematic existing practices.

#### 5. *Advocacy based on knowledge*

#### 6. *Networking*

- Working with others locally, people who share your values, adds great power to your efforts. Much can be done alone, but it is far more fun in a group. Connecting with others working for similar goals in other countries can be very useful. In supporting the Innu, Halifax physicians linked with German physicians who were protesting low level flight testing in their country. The Halifax group who work on the issue of nuclear bombs in their port are linked with Vancouver citizens who share this issue and also with New Zealanders who have succeeded in this goal.

Beneath the issues though, there are the values, and we must keep closely in touch with those:

- development of human potential
- preservation of the web of life
- sustainability for future generations
- equity
- sufficiency
- participation
- beauty

How to keep in touch? I recommend three things:

1. *Stay connected with others* who share your passion. Look at the person sitting next to you. He or she is a unique component of the biosphere, a marvellously intelligent component and gifted with a self-awareness no other species seems to have. Whether your genes make it to the seventh generation depends on him or her, and on all of us.
2. *Stay in touch with the Earth.* We belong to the Earth. Our very name for ourselves, "human", and for our best qualities, "humane" and "humanitarian" are related in derivation to "humus" – rich fertile earth. Walk on the earth every day.  
Narritjin Maymuru, an aboriginal from my native land, Australia, said, "We belong to the ground. It is our power and we must stay close to it, or maybe we will get lost."<sup>16</sup>
3. *Stay in touch with yourself,* taking time to be quiet, to feel your connexions and to know what is of value. Let me end with a very simple Buddhist verse. It is a verse of self-reminder, to be said whenever you wash your hands.

*"Water flows over these hands.  
May I use them skilfully  
to preserve our precious planet."<sup>17</sup>*



References on page 230



## BOOK REVIEWS

Over the last year the Canadian Medical Association has published three books that deserve to be reviewed in this Journal. In a time when physicians may be having difficulty in even reading summaries of articles, when the literature in the journals is overwhelming in quantity, some faith is required that "books" will ever be read by an already overwhelmed physician. Still, the Canadian Medical Association is pointing in the right direction with its choice of subjects and these books are credible and effective signposts and deserve to be noted.

**1. Quality of Care: Issues and Challenges in the 90s A Literature Review** by MaryLou Harrigan. No. of pages: 218. Format: 8½ x 11 paperback. Retail price: CAN \$44.95. ISBN: 0-920169-50-3.

Quality assessment is being called for by all sensible groups having an interest in medical care including governments, hospital boards and physicians. This book gives a good understanding to the reader interested in quality assessment and might allow him to understand just how young and undeveloped is this quality management concept. This book admits that proper education, funding and new methods all are needed before physicians can achieve evaluation of quality in a meaningful way. This publication extracted from the literature "documents key definitions, concepts and progress . . . that provide a foundation of language and knowledge . . .".

In attempting to improve care and explaining to government, hospital boards, and health groups the necessity of keeping expectations within realistic limits, this book provides the basic knowledge. At least a few copies should be in every hospital library for most doctors to peruse and is a useful manual for most members of quality assurance committees to own.

**2. Everyone's Guide to Cancer Therapy** by Malin Dolinger, M.D., Ernest H. Rosenbaum, M.D., Richard Hasselback, M.D., Greg Cable. Number of pages: 636. Format: 6½ x 7 paperback or hardcover. Retail price: CAN \$35.24, Hardcover (CMA member)/CAN \$24.54, paperback (CMA member). ISBN: hardcover: 0-921051-58-1. ISBN: paperback: 0-921051-59-X.

This book is promoted as "a useful informative reference for anyone whose life is touched by cancer". It is just that.

The book is an adaptation of the original American book, allowing for some understandable differences both in presentation and context. The book is frightening in that it reminds one of the complexity of the disease, the changing treatment protocols and one's inadequacy as we assist patients and families. The detail first seems too extensive for lay readers, at least to someone of my generation but on second thought should foster good

communication in an age where patients want more understanding than ever before.

Advertised by the CMAJ, the cost is reasonable considering the usefulness in primary care office or hospital library as well as in a patient's hands.

Definitely recommended but read it before you recommend it to patients or your ignorance might be embarrassing.

**3. CMA Guide to Medical Administration in Canadian Hospitals.** by Derek Gellman, M.D., FRCP, FRCPC. Number of pages: 364. Format: 12 x 11½ binder with tabs. Retail price: CAN \$69.55 (CMA member) CAN \$85.60 (Others). ISBN: 0-920169-52-X.

You will not take this book to the beach for escape reading nor will many doctors want to buy it. On the other hand the increasing number of physicians moving into administration have long needed such a manual. Simply examining the table of contents should scare educators in our medical schools. It outlines many concepts long ignored by the curriculum planners that physicians will need to understand in the next decade.

The manual is sturdy, well planned with room to add material. Anyone interested in medical administration and medical politics should examine a copy. Once again, every hospital library should have one or two. Two, because your hospital administrator will "borrow" one for his office. Congratulations to the CMA for sponsoring this needed and well planned project.

Dr. J.F. O'Connor  
Editor

The Nova Scotia Medical Journal



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**PROCEEDINGS OF  
28TH MEETING OF COUNCIL**

**and**

**139TH ANNUAL MEETING**

**of**



**The Medical Society of Nova Scotia**

**Halifax**

**November 20-21, 1992**

# THE MEDICAL SOCIETY OF NOVA SCOTIA

## PROCEEDINGS OF

### 28th MEETING OF COUNCIL

### 139th ANNUAL MEETING

### November 20-21, 1992

The 28th Meeting of Council began when The Medical Society Officers, accompanied by Dr. Ron Whelan, C.M.A. President, visiting Division Presidents, and Executive Director paraded through Council Chambers to the head table. Following call to order by Dr. Shelagh Leahey, Chairperson of the Executive and General Council, the Officers were introduced and Dr. Whelan brought greetings from The Canadian Medical Association.

Dr. Renn Holness, Honorary Secretary, read the names of Society members deceased since October 1, 1991 as follows: Dr. John F. Anderson of Calgary, Alberta; Dr. Thomas A. Anderson of Halifax; Dr. C.R. Benson Auld of Halifax; Dr. F. Murray Fraser of Halifax; Dr. Claude F. Keays of Halifax; Dr. Tadeusz K. Krzyski of Bedford; Dr. Lloyd A. MacLeod of Truro; Dr. Benjamin Maxwell of Glace Bay; Dr. Charles M. McBride of Houston, Texas; Dr. Douglas R. Norman of Canning; Dr. John B. McG. Shaw of Halifax; Dr. George Shimo-Takahara of Antigonish; Dr. Reuben S. Shlossberg of Halifax, Dr. Ahmet Slomic of Amherst; Dr. Mary Jane Sullivan of Bridgewater; and Dr. Geoffrey J. Whiston of Halifax. A moment of silence was observed in their memory.

The Transactions of the 27th Meeting of Council and 138th Annual Meeting (1991) as printed in the December 1991 issue of The Nova Scotia Medical Journal were approved.

Council approved a motion that the narrative of all reports be received for information.

These Transactions are a concise record of Council and the Annual Meeting and the decisions arising therefrom. It may be necessary for the reader to refer to Reports to Council (1992) for detailed background information. The Reports are available through The Society office, all Branch Societies, and members of Council. All information is available for viewing at the office on reasonable notice.

## REPORTS

### President's Report

In speaking to his report, Dr. Stokes highlighted a few of the many issues in which The Society had been involved during the past year.

Also noted was the benefit the Officers of The Medical Society had received through taking appropriate courses to better enable them to serve The Society. The President recommended that it become Medical Society policy that courses be offered to the incoming Officers.

The President noted that his visits to other divisions strikingly demonstrated the similarity of government strategy across the Country. He expressed the view that it is vitally important that representatives from The Medical Society of Nova Scotia retain good contact with their colleagues across the Country as our problems are not unique.

### Executive Committee Chairman

The Chairman touched on a few highlights of the actions of the Executive Committee during the past year as found on Pages 10-11 of Reports to Council. Dr. Leahey commended to Council the incoming Chairman, Dr. Kim Crawford of Liverpool.

A sincere vote of thanks was extended to Dr. Leahey for her years of service to The Society.

### Executive Director

In speaking to his report, the Executive Director outlined staff activities during the last year, making specific reference to the ongoing efforts of the staff to enhance the public profile of physicians. Mr. Dyke noted the change in orientation of the meeting Agenda and encouraged members to complete the evaluation forms provided. With regard to exhibitors, the Executive Director expressed his sincere appreciation for their participation and preferred services to

our members as well as their substantial contribution toward defraying costs. Mr. Dyke took this opportunity to thank member volunteers for giving of their time in the past year.

In response to a question regarding the process and structuring of a strategic management plan, the Executive Director reported that the Executive Committee had agreed at its meeting in June that the strategic management exercise should be done as a process of addressing membership concerns and setting clear directions, the goal of which would be for The Society to become more responsive to its members and their aspirations. It was proposed that this exercise be carried out with the assistance of an external facilitator to gather information in an effective but impartial manner from the membership and analyze same. It was noted that Society staff is in the process of putting together a formal request for proposal to forward to interested consulting firms. The cost of this Strategic Management exercise is expected to be in the vicinity of \$25,000, and it was noted that The Canadian Medical Association has tentatively agreed to provide \$10,000 funding to encourage divisions to carry out this process.

### Economics Committee

Dr. Mark Kazimirski, Deputy Chair of the Economics Committee, presented the Committee's extensive written report in the unavoidable absence of the Chairman, Dr. LeRoy Heffernan. During presentation Dr. Kazimirski thanked Dr. Lenco, a recently retired member of the Committee for all his service, and welcomed Dr. Bill Howes.

"A Guide to Direct Billing for Non-Insured Services" and a poster listing services not covered by MSI, and a list of fee ranges has been prepared by the Sub-Committee on Non-Insured Services chaired by Dr. Art Zilbert. The public will be made aware that this is a joint venture with the Department of Health. It was recognized that this is a matter which will require a great deal of sensitivity with patients.

The terms of reference of the Economics Committee have been updated to reflect the changing environment and activities.

Arising out of a meeting of Sections, the Economics Committee, the Officers, and the Joint Management Committee was the setting up of an Adjustments Committee to ensure that the allocation of the \$3 million Adjustments Fund would be made on the basis of fairness and equity. The terms of reference for this Committee will be discussed by the Officers at their next meeting. The recommendations of the Task Forces on Surgical Rules and Obstetrical Services will go before the Adjustments Committee to prioritize items and proceed with implementation.

### Joint Management Committee

The Chairman, Dr. Cohen advised that, in addition to himself, committee membership is comprised of Drs. Rick Gibson and Reg Yabsley from The Society, and Messrs. Derek Dinham and Vern Hicks, and alternatively Mr. John Malcom and Dr. Doug Henshaw, all from the Department of Health. Messrs. Richard Dyke and Derek Dinham comprise the Administrative Operations Committee. Support and advice is received from Paul Childs and Mary Kate Needler from Medical Society Staff.

Dr. Cohen briefly updated Council on the activities of the Joint Management Committee (JMC) since August, the major issue being review of the Master Unit Value with respect to the Global Budget. Council was informed that it would appear that there is no anticipated change until at least January 1993. He noted that the details of the Administrative Operations Committee is being developed, and sub-committees being defined to develop policies for the JMC's consideration. Dr. Cohen was pleased to report that Government is interested in helping The Society distribute information to physicians, e.g. with MSI cheques.

Dr. Cohen reminded the meeting that the JMC does not set policy but requires direction from The Society as a whole through the Officers and Executive Committee.

### By-Laws Committee

Dr. Littlejohn, Chairman, spoke to his report as it appears on Page 12 of Reports to Council, together with the proposed By-Law Amendments Pages 13 through 20. The addition of 12.6 - Staffing Committee - and its composition generated lengthy debate which resulted in a motion to refer the Section back to the By-Laws Committee which was defeated, and then proposed Sections 12.6 and 10.1.1 were subsequently withdrawn.

### Resolution

*"THAT the Proposed By-Law amendments (Pages 13 through 20 of Reports to Council and as circulated via President's Letter and the Nova Scotia Medical Journal) excluding 12.6 and 10.1.1 which were withdrawn be adopted."* CARRIED.

### Finance Committee

In speaking to his report, the Chairman, Dr. Ken Langille, noted that account numbers and definitions have been changed

for the 1993 fiscal year in consultation with our Auditors. This is due to redefining cost centers in an attempt to identify items on a more timely and meaningful basis to aid in decision making and in accordance with last year's recommendations by the Honoraria and Expense Review Committee. Dr. Langille noted that this year's budget amounts to \$5 million compared to last year's \$2 million. This three million increase results from Item 440 - Membership Benefit Fund.

Following up on an earlier question, the Treasurer and Executive Director explained the impossibility of having directly comparative figures to last year's budget. This conforms to the advice of the Auditors. They assured Council that comparative figures would be available for the 1993-94 budget.

With regard to the recommendation pertaining to changing the Annual Meeting date, the Treasurer explained the reason as being the large time lapse from the existing Annual Meeting date to billing date, and it would seem more realistic to move the Annual Meeting to a Spring date and maintain billing year as is.

The report contained four resolutions which were passed.

#### Resolution

*"THAT the Financial Statements of The Medical Society of Nova Scotia for the Fiscal Year 1992 be approved."* CARRIED.

#### Resolution

*"THAT Doane Raymond be retained as The Medical Society's auditors for the Fiscal Year 1993."* CARRIED.

#### Resolution

*"THAT the membership dues remain unchanged for the 1994 Fiscal Year."* CARRIED.

#### Resolution

*"THAT The Medical Society of Nova Scotia proceed with plans to change the date of Annual Meeting from the Fall to a Spring format."* CARRIED.

### Executive Committee Restructuring

In speaking to this item Dr. Rick LeMoine informed Council that at a meeting of Section Chairmen and Section Fee Committee Chairmen he had been asked to co-ordinate efforts which may lead to the restructuring of The Society. He noted that he had written to all Branch Presidents, Executive Committee members and all Section Chairmen requesting their thoughts, suggestions and proposals and had received a large number of responses. The majority of these responses were very supportive of change, particularly of having Section input at the Executive Committee level. Using input from Sections and Branches Dr. LeMoine prepared three proposed versions for a revamped Executive Committee—a fat version, a thin version, and a compromise version. These were presented to the Executive Committee at its September meeting.

The fat version would total 34 with membership as follows: 15 from Branches (2 from each of the following: South West, Valley, Cobequid, Northumberland, Cape Breton, and five from Halifax); 7 Officers; 10 from Sections (5 from General Practice, 2 from surgery, and 3 from Medicine); and 1 each from Students and PARI-MP.

The thin version would total 19 with membership as follows: seven from Branches (one from each from South West, Valley, Cobequid, Northumberland, Cape Breton, and two from Halifax); six Officers; four from sections (two from General Practice, one each from Surgery and Medicine); and one each from Students and PARI-MP.

The compromise version would total 23 with membership as follows: 7 from branches (1 from each from South West, Valley, Cobequid, Northumberland, Cape Breton, and 2 from Halifax); 6 Officers; 8 from Sections (4 from General Practice, 2 each from Surgery and Medicine); and 1 each from Students and PARI-MP.

Following thoughtful and extensive debate at the September meeting it was subsequently moved and seconded:

*"THAT the Fat Version as outlined above be recommended to Council as the proposed new structure of The Medical Society of Nova Scotia's Executive Committee."*

Dr. LeMoine noted that it was recognized that there are many details that will have to be worked out in order to get the revised Executive Committee structure "up and running" but nevertheless outlined the importance for having this happen as soon as possible. It was noted that with increasing frequency, the Executive is having to make decisions which will have tremendous impact on Sections. As well, greater

representation of sections will allow sectional input regarding ALL matters that the Executive must deal with, rather than just those of an economic nature.

Council was reminded that restructuring the Executive Committee would change its composition not its authority.

Many members noted that Executive Committee restructuring had been discussed within their Branches, with it being agreed that the "Fat Version" was a step in the right direction. The consensus was that it is important to start with a structure that is as representative as possible.

#### Resolution

*"THAT Council 1992 of The Medical Society of Nova Scotia endorse the following as The Society's new Executive Committee structure: total 34 with membership as follows: 15 from branches (2 from each of the following: South West, Valley, Cobequid, Northumberland, Cape Breton, and 5 from Halifax); 7 Officers; 10 from sections (5 from General Practice, 2 from surgery, and 3 from Medicine); and 1 each from Students and PARI-MP."*  
CARRIED.

#### Resolution

*"THAT the By-Laws Committee be instructed to draft specific changes to The Society's By-Laws to give effect to the new Executive Committee Restructure as outlined above."*  
CARRIED.

#### Minister of Health - Hon. George Moody

Addressed Council on Friday morning at 11 a.m.

#### Presentation by Task Force on Physician Policy Development Re: Draft Report "Creating A Climate for Change: Physician Policy Development in Nova Scotia"

Following The Hon. George Moody's address Task Force Chairman, Mr. Ron Smith gave a presentation that the Task Force is making throughout the Province.

The draft report contains 55 recommendations which deal with 6 specific areas: the planning process; supply measures; distribution measures; quality management initiatives; funding alternatives; and related factors in the health

care system. Council was advised that the final report will be available early in the new year.

Following the presentation there was a short question period during which a number of physicians spoke with regard to: decrease in physician growth and the time to put in place controls, and to correct them if the initial assumptions were found to be incorrect; utilization (physician induced demand, political induced demand, and patient induced demand); the failure of Nova Scotia to retain specialists; shortage of specialists (psychiatrists, obstetricians, general and orthopaedic surgeons) in underserved areas; the process being used to seek public input; and the perceived thrust of the report that health care costs are rocketing out of control, which does not seem supportable. Mr. Smith thanked Council members for their input, for having been given the opportunity to receive feedback, and respond to their questions and concerns.

On behalf of Council, Dr. Leahey thanked Mr. Smith for his most informative presentation, and advised Council that the next item on the agenda was discussion of a Society response to the Task Force Report.

#### Physician Resource Policy - Discussion of MSNS Response to Task Force Report

Dr. LeMoine, via a slide presentation, provided Council (for discussion purposes only) a draft Society response to the draft report "Creating A Climate for Change: Physician Policy Development in Nova Scotia" which had been prepared by the Ministerial Task Force on Physician Policy Development for the Minister of Health.

The draft document dealt specifically with each recommendation in the Report and generated thoughtful debate with many valid comments and observations being provided. Most particularly discussed were the recommendations relating to: peer review and who should pay (Government or the medical profession or jointly); hospital privileges, reasons for same, the necessity for having them at more than one hospital, and the unique situation within Metro; mandatory retirement; the number of doctors and how this affects quality of care; development of principles/guidelines for existing and alternate reimbursement systems for physicians; and areas that the Task Force did not address such as human resource (non-monetary issues and benefits), retirement, continuing medical education, and medical insurance issues.

The whole issue of physician manpower (management of growth and distribution of) generated many ideas and comments on how this could best be achieved. The Section

of General Practice at its Annual Meeting the previous evening passed the following motion: "THAT The Medical Society of Nova Scotia endorses credentialing boards based on traditional medical communities, with appropriate input from local physicians, that will determine the need for and number of physicians that will be given health care institution privileges, and that billing numbers for physicians beginning practice in Nova Scotia be linked to obtaining of those privileges."

It was recognized that this will have a major impact on people's career decisions and an issue that must receive attention now. Arising out of the above was the following:

#### **Resolution**

*"THAT The Medical Society of Nova Scotia begin discussions on methods to limit physician deployment to only those areas where a need can be demonstrated."* CARRIED.

#### **Resolution (brought forth under new Council business)**

*"THAT Internes/Resident and Medical Student representatives be included in Medical Society sanctioned groups discussing or implementing changes with regard to physician resource allocation."* CARRIED.

#### **CMPA Presentation on Medical Records**

Council received a most informative presentation on access to Medical Records by Mr. Dan Campbell from the law firm Cox, Downie. Mr. Campbell briefly reviewed for Council the June 1992 Supreme Court of Canada ruling which rendered a judgment dealing with a patient's right of access to his/her medical records compiled in the office of a physician. Mr. Campbell spoke in general terms on this very broad topic noting that: the right of access is not absolute without defining justification; there are times when it is appropriate for a physician to withhold information [e.g. - when it may not be in the best interest of the patient (psychiatric patients) or results of information for insurance or employee medicals].

However, Mr. Campbell did remind Council that in most instances the file follows the patient and the physician has no right or duty to withhold information that has been compiled by another physician. Non-disclosure is meaningless or misleading and the patient should be given assistance in interpretation.

In his concluding remarks, Mr. Campbell urged physicians to: keep thorough and professional records; to maintain

those records, and to plan for this in their professional relationships (e.g. - transfer of practice or retirement); to provide access to patients and be cognizant that in most instances patients have a right to copies of their records at reasonable cost; and to preserve confidentiality as always has been done.

In response to a question regarding how long physicians should keep their medical records, Mr. Campbell responded that there is no point at which you can destroy your records with absolute certainty.

It was suggested by one physician that a formal Continuing Medical Education course should be held dealing with medical-legal requests for medical records.

Mr. Campbell was thanked for his very thought-provoking presentation.

#### **Peer Review**

As reported in previous minutes and President's Letters, Dr. LeMoine updated Council on the progress of peer review noting that things are progressing well and that the excellent co-operation among the four licensing bodies and medical societies results in cost effectiveness. He informed the meeting that he has received over fifty responses from general practitioners expressing an interest in serving on the Core Group of assessors. All expenses will be covered by the Peer Group organization and the honorarium is tentatively scheduled at \$650 per day. The total time commitment is estimated to be 6 to 9 days per year. The first assessments will be done late in the summer or early in the fall of 1993 according to the current schedule. The next meeting of the Atlantic Provinces Peer Review Committee will be held on December 12, 1992.

#### **Prescription Monitoring**

Dr. George Carruthers, The Society's representative on the Prescription Monitoring Association (PMA) of Nova Scotia, updated Council on the status of the Association. Dr. Carruthers gave a brief history of the implementation of the Program and informed Council that the PMA is currently awaiting clarification regarding who is ultimately responsible for the functioning of the Prescription Monitoring Program, the groups who make up the PMA or the Provincial Medical Board exclusively. Dr. Carruthers reported that this was being brought forth to Council to seek input. There was a consensus to support PMA's continuation. Dr. Stokes informed the meeting that the Minister of Health understands the sensitivity of this issue and assures that the Provincial Medical Board and the Medical Society will be invited to meet with him soon to resolve this issue.

## REPORTS OF STANDING COMMITTEES

### Community Health

The Community Health Committee Report which outlined the work of the Committee during the past year was presented to Council by Dr. Anne Houstoun a Committee member. The Report contained one recommendation. In speaking to her Committee's motion which was subsequently passed Dr. Houstoun noted: that a recent poll of the doctors of Nova Scotia revealed that 95 percent of those responding to the Committee's Smoking Questionnaire which was circulated to all physicians through *InforMed* felt that the medical profession should be doing more to combat smoking; that Nova Scotia is one of the only two provinces with no legislation restricting the sale of tobacco to minors; that 64 percent of 12 year old smokers in Nova Scotia have never been refused when they attempted to purchase cigarettes; that Smoke Free Nova Scotia, of which The Medical Society is an active participant, has submitted to the Minister of Health a draft piece of legislation to address the problem.

### Resolution

*"THAT The Medical Society of Nova Scotia call on the Minister of Health of Nova Scotia to bring forward legislation raising the age of sales of tobacco to 19 years, banning the sale of tobacco in vending machines, establishing a minimum package size of 20 cigarettes, and establishing a mandatory tobacco licensing system, with graduated penalties for violations including loss of license." CARRIED.*

### Membership Benefits Committee

In speaking to his report the Chairman, Dr. Jackson, noted: that his Committee began meeting during negotiations and was officially recognized in June as a committee of the Executive Committee; the Committee is working on the understanding that of the \$3 million available, distribution will be CME - \$400,000 as in last year, CMPA - \$400,000 as last year; the balance of \$2.2 million to be assigned to programs of insurance available to all eligible members as a benefit.

The Chairman reported that the Committee now has fairly clear plans to arrange for each eligible member to have \$150,000 worth of term life insurance which would run to age 65. The balance of the funds would be used to provide extended health care benefits and the package will likely contain a program to cover the following: drug costs; dental plan; travel health plan; private accommodation in hospital, ambulance services, appliances, etc.; and an eye care plan.

Since the premium for this insurance would be paid by funding from Government, a taxable benefit would be incurred by individual members who choose to enroll. Insurance protection for HIV and HEP B carrier states was looked at briefly by this Committee. However, physicians may now purchase additional coverage for this through The Society's association with the Ontario Medical Association Insurance Plan. This coverage is available but voluntary.

The Committee has examined the possibility of a better price through bulk purchase of computer equipment. As a result of this investigation, arrangements have recently been made with Dymaxion of Halifax.

There was considerable discussion on what specifically is to be included in the physicians' benefits package. The general consensus was that the committee should continue negotiating an extended health care package for members without the term life insurance package.

In response to physicians speaking in favour of incorporation, Council was informed that this issue is being actively addressed within the Joint Management Committee.

The method of how CMPA Dues Rebates should be distributed received long and thoughtful discussion, e.g. — based on a percentage of capped income, based on income rather than capped income, or should the present method (based on actuarial risk) be changed at all. It was generally agreed that resolution of this matter will require a lot of input from a number of people and is not best dealt with via Council.

### Resolution

*"THAT the Membership Benefit Funds available for the CMPA Dues Rebate be distributed to physicians based on their CMPA dues as a percentage of their peer group income threshold for physicians whose ratio is greater than one percent." REFERRED TO THE EXECUTIVE COMMITTEE.*

The Executive Director drew Council's attention to the successful efforts of Dr. John Anderson, The Medical Society's representative to the CMPA, in gaining the CMPA's agreement to streamline the system for providing CMPA rebates. Members who wish and are eligible for CMPA rebates may now sign the bottom of their CMPA form to authorize release to The Medical Society the necessary information for processing their rebate. A sincere vote of thanks was extended to Dr. Anderson.



The following reports were received for information, but not presented.

**Editorial Board**

**Gynecological Cancer (Screening for)  
HIV Policy for Physicians - Task Force  
Home Care**

**Liaison Committees:**

- ( i ) MSNS/Faculty of Medicine
- ( ii ) MSNS/Minister of Health & Fitness
- ( iii ) MSNS/Registered Nurses' Association
- ( iv ) MSNS/Workers' Compensation Board

**Mediation**

**Professionals' Support Program Committee  
Risk Management  
Site Development Committee**

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**NOVA SCOTIA REPRESENTATIVES  
TO C.M.A.**

**C.M.A. Board of Directors**

Received for information, not presented.

**Council on Health Care**

Received for information, not presented.

**Council on Health Policy and Economics**

Received for information, not presented.

**Council on Medical Education**

Dr. Gary Ernest, The Society's representative, spoke briefly to his report. He drew Council's attention to Paragraphs 96 and 97 which refer to the Two Year Pre-Licensure Training, the New Two-Part LMCC, and Portability of Eligibility of Licensure.

**MD Advisory Board**

Received for information, not presented.

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**REPORTS OF SECTIONS**

**Section of Surgery**

In speaking briefly to his report, Section Chairman, Dr. Peter Roy noted that he wished the recommendation con-

tained in his report tabled until the next meeting of the whole Society. The recommendation reads as follows:

*"WHEREAS increases in Nova Scotia physician manpower in family and internal medicine have considerably outstripped increases in surgical manpower in recent years; and*

*WHEREAS currently there are significant manpower shortages in general and orthopaedic surgery, obstetrics, and anaesthesia; and*

*WHEREAS other surgical disciplines are already "capped" by regional hospital manpower plans; and*

*WHEREAS vacant positions will be difficult to fill in the face of a falling Master Unit Value;*

*BE IT RESOLVED THAT for the duration of the current agreement between The Medical Society of Nova Scotia and the Department of Health; the Global Budget for Insured Medical Services be compartmentalized to create a separate "envelope" within the Global Budget for the Division of Surgeons and Anaesthetists which includes certified specialists in anaesthesia, general, plastic, CV, thoracic, neuro, and orthopaedic surgery, obstetrics & gynecology, ENT, ophthalmology, and urology. The envelope shall be calculated on the basis of MSI payments for fiscal 1990-91, plus any relevant adjustments. Changes to the Master Unit Value for surgery and anaesthesia shall be calculated within that envelope."*

The following section reports were received for information but not presented.

**Section of Anaesthesia, including Anaesthesia Mortality Review Committee**

**Section of Emergency Medicine**

**Section of General Practice**

**Section of Internal Medicine**

**Section of Laboratory Medicine**

**Section of Ophthalmology**

**Section of Orthopaedic Surgery**

**Section of Psychiatry**

**Section of Radiology**

**Section of Urology**

## REPORTS OF REPRESENTATIVES TO OTHER ORGANIZATIONS

### Drug Information Advisory Committee

Dr. Jean Gray, The Society's representative to this Committee, spoke briefly to her report, referring specifically to the need to establish a time table for the implementation of a more formalized cost recovery program for the Regional Drug Information Service. The three provincial pharmacy associations have accepted, in principle, the funding formula which provides for proportionate sharing of the cost of providing services according to usage of the service. No funding has been received from the medical community to date although meetings have occurred between the Director of the Regional Drug Information Service (RDIS), The Society's Representative to the RDIS Advisory Committee and The Society's Executive Director. Medical requests from physicians in Nova Scotia continue to represent almost 10 percent of the total regional calls received by the Drug Information Service and 33 percent of all the calls received from pharmacies are actually initiated by physicians.

The negotiations with the Federal Government about establishing a post-marketing pharmaceutical surveillance program continue. It is anticipated that a renewed effort will be made to establish an Atlantic region reporting centre in late 1992.

### Resolution

*"THAT The Medical Society of Nova Scotia make a \$2000. grant to the Regional Drug Information Service to offset the costs of services rendered to physicians in Nova Scotia." CARRIED.*

Dr. B.J. Steele, Registrar, spoke to this report as it appears on Page 62 of Reports to Council. He outlined the structure of the Board noting that it operates under the Medical Act of the legislature which authorizes its governance of the medical profession, including discipline. He briefly reviewed the disciplinary process.

The Registrar noted that the Board moved to its new premises on Morris Street in April 1992. As a result of unforeseen costs related to the move, and The Board's participation in the Atlantic Provinces Peer Review Program an increase in fees was necessary. However, Nova Scotia's licensing fees are still one of the lowest in Canada.

Activities during the past year included co-sponsoring with Dalhousie University and the Department of Health a

two-day course "Effective Management of the Prescription Prone Patient" which was well attended and well received. The Board's response to the Ontario Task Force on Sexual Abuse of Patients will be released on November 26, 1992. As well, together The Medical Society and the Board prepared a Joint Statement on the Roles of The Provincial Medical Board and The Medical Society of Nova Scotia which will be finalized within the next few months.

It was noted that the New Brunswick College and Society hold their meetings conjointly. It was agreed that The Board and Medical Society would explore the feasibility of this occurring in Nova Scotia.

### Kellogg Health Sciences Library

Dr. Brown, The Society Representative, noted a change to Paragraph 221 of his report: "but not expected" should read "but expected."

The following reports, containing no recommendations, were received for information.

Abilities Foundation of Nova Scotia  
Communicable Disease Control Advisory Committee  
Diabetes Care Program  
Laboratory Services Committee (Joint)  
Lung Association (Nova Scotia)  
Medical/Nursing Liaison Committee  
Occupational Health and Safety Advisory Committee  
Pharmacy Advisory Committee  
Rh Committee

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## NEW BUSINESS

The following motions were presented under new business.

### Physician Resource Allocation

#### Resolution

*"THAT Interne/Resident and Medical Student representatives be included in Medical Society sanctioned groups discussing or implementing changes with regard to physician resource allocation." CARRIED.*

**Resolution**

*"THAT The Society Officers and staff of The Medical Society of Nova Scotia be directed to examine the feasibility of holding the 1996 Annual Meeting of The Canadian Medical Association on Cape Breton Island."*  
**CARRIED.**

**ANNUAL MEETING - FIRST SESSION  
 FRIDAY, NOVEMBER 20, 1992**

The first item of business following adjournment of Council was ratification of the deliberations of Council.

**Resolution - Ratification of Actions  
 of Council - 1st Session**

*"THAT the actions of the 1st Session of Council be ratified."* **CARRIED.**

**Nominating Committee Report**

Following ratification of the actions of Council, Society President and Nominating Committee Chairman, Dr. Rob Stokes presented the report of the Nominating Committee.

**Resolution - Society Officers**

*"THAT the Report of the Nominating Committee with respect to the Officers be accepted and that the names contained therein are the new Officers of The Medical Society of Nova Scotia. - President-Elect - Dr. Robert R. Kimball of Windsor; Chairman of the Executive Committee - Dr. Kim Crawford of Liverpool; Vice-Chairman of the Executive Committee - Dr. Renn Holness of Halifax; Treasurer - Dr. Ken R. Langille of Berwick; and Honorary Secretary - Dr. Anne Houstoun of Halifax."*  
**CARRIED.**

**Resolution - Executive Committee**

*"THAT the 1993 Executive Committee members be approved as read from the Nominating Committee Report.  
 Branch Representatives:*

- |                            |                                                                     |
|----------------------------|---------------------------------------------------------------------|
| <i>Ant/Guys.</i>           | <i>Dr. John D. Chiasson</i>                                         |
| <i>Alt.</i>                | <i>Dr. Leo Pereira</i>                                              |
| <i>Bed/Sackville</i>       | <i>Dr. Chris M. Childs</i>                                          |
| <i>Alt.</i>                | <i>Dr. Cynthia A. Forbes</i>                                        |
| <i>Cape Breton</i>         | <i>Dr. Mary E. Lynk</i>                                             |
| <i>Alt.</i>                | <i>Dr. D. Paul Hickey</i>                                           |
| <i>Col. E. Hants</i>       | <i>Dr. Fred J. Carpenter</i>                                        |
| <i>Alt.</i>                | <i>Dr. Michael W. Cook</i>                                          |
| <i>Cumberland</i>          | <i>Dr. Terrance J.G. Mullan</i>                                     |
| <i>Alt.</i>                | <i>Dr. J.P. Donachie</i>                                            |
| <i>Dartmouth</i>           | <i>Dr. Donald J. Cheverie</i>                                       |
| <i>Alt.</i>                | <i>Dr. Chris Gallant</i>                                            |
|                            | <i>Dr. Miles Ellis</i>                                              |
| <i>Alt.</i>                | <i>Dr. Jennifer J. Serb</i>                                         |
| <i>Eastern Shore</i>       | <i>Dr. Michael MacQuarrie</i>                                       |
| <i>Alt.</i>                | <i>Dr. D.P. Sinha</i>                                               |
| <i>Halifax</i>             | <i>Dr. Byron L. Reid</i>                                            |
| <i>Alt.</i>                | <i>Dr. P. Michael Reardon</i>                                       |
|                            | <i>Dr. J. Sandy McLean</i>                                          |
| <i>Alt.</i>                | <i>Dr. Dora Stinson</i>                                             |
| <i>Inv/Victoria</i>        | <i>Dr. J. Claude Aucoin</i>                                         |
| <i>Alt.</i>                | <i>Dr. Caryle S. Chow</i>                                           |
| <i>Lun/Queens</i>          | <i>to be advised</i>                                                |
| <i>Alt.</i>                | <i>to be advised</i>                                                |
| <i>Pictou</i>              | <i>Dr. H. Paul MacDonald</i>                                        |
| <i>Alt.</i>                | <i>Dr. J. David Archibald</i>                                       |
| <i>Shelburne</i>           | <i>Dr. Peter S. Robbins</i>                                         |
| <i>Alt.</i>                | <i>Dr. Mark Riley</i>                                               |
| <i>Sydney</i>              | <i>Dr. John E. Sampson</i>                                          |
| <i>Alt.</i>                | <i>Dr. Farokh Buhariwalla</i>                                       |
| <i>Valley</i>              | <i>Dr. Amer R. Ahmad</i>                                            |
| <i>Alt.</i>                | <i>Dr. Robin G. Bustin</i>                                          |
|                            | <i>Dr. Kenneth Buchholz</i>                                         |
| <i>Alt.</i>                | <i>Dr. Robin G. Bustin</i>                                          |
| <i>Western</i>             | <i>Dr. Ivan Brodarec</i>                                            |
| <i>Alt.</i>                | <i>to be advised</i>                                                |
| <i>Internes/Residents:</i> | <i>Arun Mathur &amp; Kevork Peltekian</i>                           |
| <i>Students:</i>           | <i>Steve Miller, Sonia Verma and Tina Dempsey."</i> <b>CARRIED.</b> |

**Resolution - Ratification of Actions of  
Council - 2nd Session**

*"THAT the actions of the 2nd Session of Council  
be ratified." CARRIED.*

There being no further items of business the 2nd Session of the 139th Annual Meeting of The Medical Society of Nova Scotia adjourned at 3:30 p.m. on Saturday, November 21, 1992.

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## **Presidential Valedictory Address - 1992** **Rob Stokes, M.B., Ch.B.**

*Baddeck, Nova Scotia*

Attempting to prepare a valedictory address after a year as President of your Medical Society is a very daunting task. By the time I present this speech to you, you will probably be listening to version number four or five after I have had an opportunity to explore the whole range of my experiences and emotions over the last year.

Professional Medical Associations throughout Canada are suffering through the same generic problems which face governments and politicians. The same influences which have caused the electorate to question the integrity and appropriateness of our political institutions are causing doctors to look cynically and warily at their own Professional Associations and to express serious concerns about whether or not these Professional Associations are truly representing the interests of their members.

During the last year, The Medical Society of Nova Scotia has had to deal with the reality of a provincial government in serious financial trouble and unable to adequately fund a health care system which is becoming extremely expensive and burdensome. The decreasing transfer payments from the Federal Government instituted almost two years ago are beginning to bite very hard and this at a time when your Medical Society was in the position of having to renegotiate a new contract.

Representatives of a Professional Association such as ours must always act in the best interests of the membership as a whole. This was a guiding principle for these negotiations. The well being of the members of the profession has, however, become integrally tied to the well being of the Canadian health care system and the Country's economy. Our recent contract which provides the Provincial Government with a sound fiscal basis upon which to make plans for the future of health care in Nova Scotia is the commitment that we have made for the next few years to the health care system in Nova Scotia.

However, and this must be made quite clear, the physicians cannot continue to carry the burden of increasing health costs within the health care system. The agreement which we have reached with the Province challenges the Government to come to grips with the fiscal problems facing the health

care system and to ensure that physicians will be involved in the decision making which will take place to produce more efficient, more accountable and appropriate health care delivery to the people of Nova Scotia. We, as doctors, have clearly demonstrated our responsibility. It is now up to the politicians to deliver on theirs.

There are many challenges which face The Medical Society. All of which will have far reaching consequences for the welfare of our members in the coming years. Having demonstrated our commitment to providing high quality medical care to the people of this Province, we must now involve ourselves in the processes which will produce that end. In my opinion, the most pressing issue which faces us as a profession is the question of Manpower.

Royal Commissions have spoken about it. Barer-Stoddart issued a well researched document full of interconnected recommendations and I have been to numerous conferences over the last year in which I have been involved in discussion on manpower plans for Canada. There is no question in my mind that this is an imperfect science. But I have no doubt that this is too important an issue to leave in the hands of civil servants. I believe that physicians themselves need to have some input and some control over manpower requirements.

This is not an area which can be left in the hands of amateurs and bureaucrats making decisions with a pencil and a pocket calculator. Planning for the future is an imprecise art. Decisions will need to be based on the best available evidence and in the best interest of providing high quality care but one thing is clear, we cannot continue to skirt the issues.

We, as physicians, have to make some decisions ourselves about the directions that we will go in manpower policy. Our commitment to our patients must be to provide appropriate, accountable, high quality medical care and to make that available to the patients in the most efficient manner possible. These are difficult issues. Doubly difficult for a profession that has always been fully employed, and always been well paid. But, our credibility in being able to have input into other aspects of health policy will depend on our coming to grips with the issues of manpower.

This question has been a high priority during my year and I know is a major priority item for Dr. Rick LeMoine. We must be proactive in developing compassionate and yet appropriate manpower plans for the province.

As a profession, we can no longer simply pay lip service to many of the other serious issues plaguing health care. Many of these issues have to be faced head on and we have to deal with them. As experts in health care we, as physicians, must come to grips with many of these difficult questions. Ethical questions in reproductive care and genetic technology, issues of appropriate technology and issues such as defensive medicine are vitally important if we are to continue to be proponents of efficient high quality health care.

I recently had an opportunity to spend some time with a mixed group of American physicians to discuss and compare health care in our two countries. I was astonished to learn that because of the medical legal implications CT scanning has become a matter of routine for all patients attending emergency departments with minor head injuries or headaches in the United States. Their rationale for this kind of medical care is purely medico-legal necessity.

Lawyers in the United States now hold regular medical seminars to discover the best ways to win lawsuits in medical cases. Young lawyers who have specialized in medical cases dream of early retirement with the contingencies which they are able to demand from patients, and many do after only one or two cases.

Issues such as this must be confronted directly by the profession in Canada. If we can't come to grips with medical legal problems associated with the delivery of care, then comprehensive medical care such as we have in Canada will disappear.

If Canada's health care system breaks down because of the delivery of inappropriate care and inappropriate technologies, I can tell you who will be blamed. The physicians of Canada will be the scapegoats for the system.

Every physician in Canada recognizes the pervasive cancer of defensive medicine creeping into the way that we practice.

If we need law reform, then we must fight for it. If we need a stronger, more active Canadian Medical Protective Association, then we must pay for it. But, defensive medicine and litigation will be the death of Canadian medicine and will suck the life blood from any new programs and therapies.

Let me turn now to talk specifically about our own Medical Society.

In order to confront adequately the many issues which are facing us, it is becoming increasingly clear that we must reorganize. We have worked very hard this last year to reach a consensus on the Executive structure of our Society. Recommendations will be coming to you at this Annual Meeting for consideration in that regard.

Our Board of Directors, which is geographically based,

often feels uninformed about many of the Sectional issues on which it is asked to make decisions. There is great need for more Sectional involvement at the Executive level and we have made tremendous advances over the last year in involving Sections in vital decision making. I have been very impressed by the enthusiasm of Sections to become more involved in the activities of The Medical Society and also with the very high quality people who have given their time and efforts. There can be no more tokenism on our boards and committees. We have to have people who are committed to being able to make decisions and be involved in the implementation of those decisions.

Plans are being put in place for us to go through a strategic management exercise. Having seen this exercise work well both at The Canadian Medical Association and at other medical associations across Canada. I am absolutely convinced that a strategic management exercise will give our Society direction for the future in being able to better serve our members. Our committee structures also need extensive revision. Our committees have to be task oriented and have to have a correct and appropriate reporting structure. We can learn much from other organizations across Canada and I anticipate that some initiatives will take place in the new year in this regard.

Because of our need to be involved and to address so many varied issues, we need the support, the experience and the knowledge of our members. I have tried very hard this year to get members involved at all levels and to consult with the membership about serious issues. This need will continue and will expand. We are continuously looking at new and better ways to communicate with the membership and this must continue.

I believe the greatest threat to our organization and to all of our well being as physicians in this Province is the threat of our professional association being dismantled by special interest groups determined only to satisfy their own needs at the expense of the rest of the profession. Disunity among us will lead only to a divide and rule policy on the part of the Government and no one will benefit.

The Quebec Medical Association some years ago divided into a Federation of GP and Federation of Specialists and this completely emasculated the QMA and has led to a situation in which incomes and fees in the Province of Quebec are the lowest in Canada. On issues vital to our professional well being we have to speak with one voice and we can only do that if we have the mechanisms within our own organization to be able to communicate and to resolve our differences. We need patience, we need strength, we need criticisms, we need involvement, but most of all we need the commitment of our members.

I thank you for allowing me the experience of this most challenging year, and I leave my responsibilities confident and optimistic that the physicians of Nova Scotia can work together for the enhancement of our own lives and those of our patients.

P.O. Box 426  
Suite 1100  
Cogswell Tower  
Halifax  
Nova Scotia  
B3J 2P8

## Auditors' Report

Tel: (902) 421-1734  
Fax: (902) 420-1068

To the Members of  
The Medical Society of Nova Scotia

We have audited the balance sheet of The Medical Society of Nova Scotia as at September 30, 1992 and the statements of revenue and expenses and surplus, changes in financial position, and related statements of the Cogswell Library Fund for the year then ended. These financial statements are the responsibility of the Society's management. Our responsibility is to express an opinion on these financial statements based on our audit.

We conducted our audit in accordance with generally accepted auditing standards. Those standards require that we plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In our opinion, these financial statements present fairly, in all material respects, the financial position of the Society and its related fund as at September 30, 1992, and the results of its operations and the changes in its financial position for the year then ended in accordance with generally accepted accounting principles.

Halifax, Nova Scotia  
November 4, 1992

*Doane Raymond*  
Chartered Accountants

A member firm of  
**Grant Thornton**  
INTERNATIONAL

# The Medical Society of Nova Scotia

## Statements of Revenue and Expenses and Surplus

Year Ended September 30

1991		1992	1992
Actual		Actual	Budget
<b>Revenue</b>			
	Membership dues		
\$ 1,114,170	Medical Society of Nova Scotia	\$ 1,199,365	\$ 1,218,200
147,100	Surcharge - building	146,900	150,800
307,830	C.M.A. membership	339,991	349,600
5,250	Intern and Resident	5,522	5,000
696	Students	682	700
<u>1,575,046</u>		<u>1,692,460</u>	<u>1,724,300</u>
	Investment income	115,500	50,000
111,849	Publications (Note 7)	36,206	(10,000)
7,318	Rental income	33,253	30,000
30,482	Other income (Note 8)	19,820	5,000
7,248			
<u>1,731,943</u>		<u>1,897,239</u>	<u>1,799,300</u>
<u>1,503,077</u>	<b>Expenses (Page 3)</b>	<u>1,770,081</u>	<u>1,864,700</u>
<u>\$ 228,866</u>	<b>Operating fund surplus for the year</b>	<u>\$ 127,158</u>	<u>\$ (65,400)</u>
<hr/>			
\$ 251,104	Accumulated surplus, previous year	\$ 57,985	
228,866	Operating fund surplus for the year	127,158	
	Transfer to Contingency Fund (Note 10)	(127,158)	
<u>(421,985)</u>	Building Fund transfers		
<u>\$ 57,985</u>	Accumulated surplus, end of year	<u>\$ 57,985</u>	

See accompanying notes to the financial statements.

**Doane Raymond**

# The Medical Society of Nova Scotia

## Expenses

Year Ended September 30

1991 Actual		1992 Actual	1992 Budget
<b>Administration</b>			
\$ 9,893	Audit fees	\$ 12,208	\$ 15,000
3,677	Investment trustee fees	4,474	4,000
365	Insurance, risk accident policy	7,779	7,850
7,405	Legal fees	14,587	8,500
6,902	Office rent		
46,402	Office services	24,868	28,500
10,386	Postage	11,137	16,500
2,844	Repairs and maintenance	626	3,500
	Xerox - supplies and lease	16,830	16,500
17,772	Telephone and fax	17,076	18,000
30,027	Travel - staff	29,329	20,000
9,034	Unforeseen expenses	1,252	5,000
	Office equipment	10,812	12,000
	G.S.T. expense (Note 9)		25,000
<b>Building services</b>			
40,672	Taxes	53,104	55,500
31,839	Utilities	37,947	37,000
72,188	Mortgage interest	70,541	75,300
	Mortgage principal	75,484	75,500
1,760	Insurance	2,024	2,000
10,703	Building services	13,164	15,000
4,500	Grounds	5,204	8,000
4,022	Maintenance agreements	6,069	6,000
	Renovations and landscaping	3,584	6,500
1,352	Moving expenses		
<b>Salaries and benefits</b>			
433,390	Salaries and related expenses	467,742	480,250
6,077	Canada Pension Plan	8,912	7,000
58,186	C.M.A. pension plan and insurance	75,466	75,250
8,431	Unemployment insurance	13,586	10,500
<b>Departments</b>			
10,799	Public Affairs department	16,840	15,000
5,043	Economics department	4,840	10,000
31,622	Professional Support Program	34,845	40,000
	PIETA Support Program	3,312	5,000
<b>Committee expenses (including travel)</b>			
11,663	Executive meetings	13,574	17,500
8,120	Officers and branch meetings	6,610	10,000
17,158	President's travel	29,309	30,000
19,633	President elect travel	17,345	15,000
5,530	Other committees	6,137	12,000
7,500	Archives committee	7,000	7,000
3,379	Negotiations committee	31,626	25,000
	R.V.F.G. Task Force		10,000
3,470	Peer review committee	9,745	10,000
20,964	Skills enhancement	11,005	15,000
<b>Miscellaneous</b>			
19,974	Annual meeting	7,215	22,500
11,568	C.M.A. general council meeting	10,527	12,000
307,615	C.M.A. membership	338,682	349,550
3,610	Drugs and therapeutics bulletin	4,066	4,000
188,938	Honoraria	220,055	200,000
1,235	Staff development	1,383	2,500
3,173	Student assistance loan plan	1,660	
	Student bursary plan	5,000	5,000
3,254	Eastern divisions annual conference		1,500
1,002	Think tank meetings		2,000
	Special programs	5,500	10,000
<u>\$ 1,503,077</u>		<u>\$ 1,770,081</u>	<u>\$ 1,864,700</u>

See accompanying notes to the financial statements.

**Doane Raymond**



# The Medical Society of Nova Scotia

## Balance Sheet

September 30

1992

1991

### Assets

#### Current

Cash and short term investments	\$ 1,228,342	\$ 1,109,459
Receivables	28,139	20,123
Accrued interest	13,074	8,964
Prepaid expenses	<u>61,508</u>	<u>23,210</u>
	1,331,063	1,161,756

Membership Benefit Program Fund (Note 2)	3,000,000	
Memorial Fund (Note 3)	11,820	10,591
Property and equipment (Note 4)	<u>2,318,715</u>	<u>2,318,715</u>
	<u>\$ 6,661,598</u>	<u>\$ 3,491,062</u>

### Liabilities and Equity

#### Current

Payables and accruals		
Trade	\$ 45,087	\$ 49,364
Honoraria	87,239	128,944
CME program	26,850	193,000
CMA dues	82,845	
Due to Cogswell Library Fund	105	695
Deferred revenue	<u>862,080</u>	<u>742,507</u>
	1,104,206	1,114,510

Mortgage payable (Note 5)	<u>575,254</u>	<u>595,737</u>
	<u>1,679,460</u>	<u>1,710,247</u>

#### Members' Equity

Membership Benefit Program Fund	3,000,000	
Memorial Fund	11,820	10,591
Contingency Fund (Note 10)	127,158	
Equity in property and equipment	1,785,175	1,712,239
Surplus	<u>57,985</u>	<u>57,985</u>
	<u>4,982,138</u>	<u>1,780,815</u>
	<u>\$ 6,661,598</u>	<u>\$ 3,491,062</u>

Contingency (Note 6)

On behalf of the Board

\_\_\_\_\_ Treasurer

\_\_\_\_\_ Executive Director

See accompanying notes to the financial statements.

**Doane Raymond**

The Medical Society of Nova Scotia  
Statement of Changes in Financial Position

Year Ended September 30

1992

1991

Cash derived from (applied to)

Operating

Operating surplus for the year	\$ 127,158	\$ 228,866
Mortgage principal repayment	<u>75,484</u>	<u>228,866</u>
	202,642	

Changes in

Receivables	(12,125)	47,517
Prepaid expenses	(38,297)	(1,846)
Deferred revenue	119,572	(402,439)
Payables and accruals	<u>(132,425)</u>	<u>14,155</u>
	<u>139,367</u>	<u>(113,747)</u>

Investing

Expenditure on building and equipment	<u>                    </u>	<u>(380,919)</u>
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Financing

Repayment of mortgage	(75,484)	(4,263)
Mortgage advances	<u>55,000</u>	<u>300,000</u>
	<u>(20,484)</u>	<u>295,737</u>

Net increase (decrease) in cash 118,883 (198,929)

Cash and short term investments

Beginning of year	<u>1,109,459</u>	<u>1,308,388</u>
End of year	<u>\$ 1,228,342</u>	<u>\$ 1,109,459</u>

See accompanying notes to the financial statements.

**Doane Raymond**

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# The Medical Society of Nova Scotia

## Notes to the Financial Statements

September 30, 1992

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### 1. Significant accounting policies

#### (a) Property and equipment

In accordance with generally recognized practice for similar organizations, the Medical Society does not record depreciation on buildings and equipment. However, operations are charged with any capital asset additions and principal repayment of the mortgage. Property and equipment are stated at cost.

#### (b) Deferred revenue

Annual membership dues for the next fiscal year received by the Medical Society before September 30, 1992 are recorded as deferred revenue.

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### 2. Membership Benefit Program Fund

During the year funds were received from the Nova Scotia Department of Health and Fitness to establish the Membership Benefit Fund. The Fund will be used solely to provide membership benefits to the members of the Society.

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### 3. Memorial Fund of Nova Scotia Physicians

	<u>1992</u>	<u>1991</u>
--	-------------	-------------

This fund is to be used for educational purposes.

Fund balance, beginning of year	\$ 10,591	\$ 9,386
Contributions	255	165
Interest	<u>974</u>	<u>1,040</u>
Fund balance, end of year	<u>\$ 11,820</u>	<u>\$ 10,591</u>

---

### 4. Property and equipment

	<u>1992</u>	<u>1991</u>
--	-------------	-------------

Land	\$ 183,308	\$ 183,308
Building	1,858,962	1,858,962
Furniture and equipment	230,683	230,683
Computer	<u>45,762</u>	<u>45,762</u>
	<u>\$ 2,318,715</u>	<u>\$ 2,318,715</u>

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**Doane Raymond**

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# The Medical Society of Nova Scotia

## Notes to the Financial Statements

September 30, 1992

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### 5. Mortgage payable

The mortgage bears interest at the rate of 11¼% and matures October 1, 1996. As security, the Society has provided a first mortgage on land and building at 5 Spectacle Lake Drive, Dartmouth, Nova Scotia. To be repaid in monthly instalments of \$12,500 including principal and interest. Additional lump sum repayments are anticipated from collection of a building surcharge from members.

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### 6. Contingent liability

The Medical Society of Nova Scotia has guaranteed the bank loans of Nova Scotia Medical Society students with the Bank of Montreal totalling \$13,900 (1991 - \$22,400).

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7. Publications	<u>1992</u>			<u>1991</u>
	<u>Journal</u>	<u>Infomed</u>	<u>Total</u>	<u>Total</u>
Revenue	\$ 71,977	\$ 31,321	\$ 103,298	\$ 70,925
Expenses	<u>51,147</u>	<u>15,945</u>	<u>67,092</u>	<u>63,607</u>
Net revenue	<u>\$ 20,830</u>	<u>\$ 15,376</u>	<u>\$ 36,206</u>	<u>\$ 7,318</u>

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8. Other income	<u>1992</u>	<u>1991</u>
Premiums - pre-authorized payment program	\$ 15,291	\$
Promotions	2,922	2,534
Donations	1,391	2,584
Miscellaneous	<u>216</u>	<u>2,130</u>
	<u>\$ 19,820</u>	<u>\$ 7,248</u>

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### 9. G.S.T. expense

Actual goods and services tax paid in the year has been included in the related expense items.

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### 10. Contingency Fund

At the 1991 Annual General Meeting, the membership approved the establishment of a Contingency Fund. Any operating surplus for the current fiscal year ended September 30, 1992, is to be transferred to the Contingency Fund. Commencing in the next fiscal year, starting October 1, 1992, a special dues levy of \$50 per member will be assessed for each of the next three years to build up the Contingency Fund.

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**Doane Raymond**

# Some Pictorial Highlights 138th Annual Meeting



Photo 1



Photo 2



Photo 3



Photo 4



Photo 5

**Photo 1** Dr. Léo Paul Landry, Secretary General, CMA, reads the citation that honoured Dr. John Fraser and made him a Senior Member of The Canadian Medical Association. CMA President, Dr. Ron Whelan joined Drs. Landry and Fraser for the presentation.

**Photo 2** These four prominent doctors received Senior Membership at The Medical Society of Nova Scotia's 1992 Annual Meeting. Standing are: Dr. George McK. Saunders, Amherst, and Dr. Douglas L. Roy, Halifax. Seated are: Dr. H. "Lefty" MacDonald, Sydney, and Dr. Carl C. Giffin, Truro.

**Photo 3** Mrs. Corine LeMoine, wife of Dr. Rick LeMoine, presents a gift to Mrs. Barb Stokes, wife of Dr. Rob Stokes. Dr. Rick LeMoine shares the happy occasion.

**Photo 4** Dr. Rick LeMoine receives congratulations of CMA President, Dr. Ron Whelan while the Past President, Dr. Rob Stokes offers his personal endorsement.

**Photo 5** Dr. Ron Whelan, President of CMA, makes sure Dr. Rick LeMoine's chain of office is properly adjusted.

# What Are the New Threats?

Alexander Leaf,\* MD

*Boston, Massachusetts*

Man-made changes in our global environment are described. The greenhouse effect, its causes and consequences, are discussed. Increase in the ambient temperatures at the surface of the earth would have several important effects: rise in sea levels with inundation of low lands, climate changes with effects on agriculture, changes in precipitation with droughts, soil erosion, desertification, coastal storms and flooding. Environmental refugees will increase causing crowding of populations with spread of infectious diseases. Loss of the stratospheric ozone cover will allow more UV-B to reach the earth causing skin cancers, cataracts, depressed immune function, and damage to crops. Tropospheric air pollution is increasing with more smog and levels of gases that are toxic to animal and plant life. The major adverse health effect of the global environment changes we are now creating will be wide spread malnutrition and starvation. The root cause of all these changes is the unprecedented population explosion and the increased industrial production to meet the expectations of the burgeoning billions for more material wealth. Rather than wait longer until certainty about the consequences of environmental pollution is established, before instituting preventive measures, it seems that an examination of the changes already upon us would indicate that we are already tardy in halting environmental depredation.

Awareness is increasing that man-made changes occurring in the environment, if not checked, have a high probability to produce deleterious effects on human health. Understandably we judge changes in our environment by the possible effects they may have upon us. Although this is admittedly an anthropomorphic view of the world, nevertheless it seems to be the only way we are motivated to take actions that aim to convert a hostile environment to one more friendly toward us. The Environment Summit in Brazil in June 1992, emphasizes the increasing concerns that many countries now have about the rate at which we are changing our global environment. I would like to review some changes that are occurring in our environment as a result of human activities and briefly mention the associated health problems likely to result.

Since the changes are likely to affect human health adversely, understanding the global environmental

changes and their consequences becomes a responsibility of physicians, as well as of other scientists. As physicians we are educated in a profession dedicated to the health of the individual and of society and we must be ever watchful to detect early signs of impending health risks, warn the public of the risks, and provide preventive strategies to reduce risks and avoid disease. Should preventive measures fail then it is our responsibility also to treat the disease. This is our covenant with society. But when the disease is likely to be severe and widespread, prudence dictates that our efforts be invested in its prevention.

So that we all start from the same base of understanding, let me briefly explain the greenhouse effect. Because of the very high temperatures at the surface of the sun, its energy arrives at the earth's surface largely in the visible short electromagnetic wave lengths. The earth being much cooler than the sun, reflects back much of the energy of sunlight absorbed during day time in the longer electromagnetic infra-red wave lengths. Certain gases in the atmosphere of the earth, such as carbon dioxide and water vapor, are largely transparent to the short light waves but absorb the longer infra-red wave lengths. Their presence in the atmosphere thus traps the energy radiated from the earth's surface raising the temperature of the earth's atmosphere. This warming at the surface of the earth is the greenhouse effect.

Fortunately for us this greenhouse effect is a normal condition of our atmosphere. Were it not for the presence of carbon dioxide in the atmosphere, the temperatures at the earth's surface would be some 40°C colder than at present, the oceans would be frozen over and life could not exist in its present forms on earth. It is the increases in the greenhouse effect that are today's concern.

Today we are increasing the carbon dioxide in the earth's atmosphere at an unprecedented rate, by more than 5 billion metric tons per year.<sup>1</sup> This is largely the result of industrial and domestic processes that consume fossil fuels – coal and oil. The increasing concentration of carbon dioxide in the atmosphere has been documented for over 30 years and has increased from 315 to 352 parts per million from 1958 to 1988, and is now substantially higher than at any time in the past 160,000 years.<sup>1</sup> The rate of disappearance of carbon dioxide from the atmosphere is slow so that one-half of all the carbon dioxide produced since the start of the Industrial Revolution is present in the atmosphere today. Our increasing dependence on fossil fuels makes a continuing rise in carbon dioxide levels inevitable. A conservative estimate is that a doubling of the present rate of consumption of fossil fuels would increase carbon dioxide levels to 600 parts per million in the next 100 years, or twice the 1850

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level.<sup>1</sup> A rise in the mean surface temperature of the earth by 0.6 °C in the past 100 years is the result of the increased levels of carbon dioxide and increases of 2 to 5 °C in the next 50 to 100 years have been predicted.<sup>2</sup>

Carbon dioxide is not the only greenhouse gas, however. *Methane*, produced by decaying organic material and cattle flatulency, is increasing in the atmosphere. The net increase of methane in the atmosphere is some 50 million tons per year. Each molecule of methane is equivalent to 20 molecules of carbon dioxide in its greenhouse effects. Methane in the atmosphere is gradually oxidized to carbon dioxide and water. *Oxides of nitrogen* which are released into the atmosphere in quantities of about 5 million metric tons per year are produced in industrial processes and remain in the atmosphere for some 125 years. Each oxide of nitrogen is equivalent to 250 molecules of carbon dioxide.

*Chlorofluorocarbons* (CFCs) have a greenhouse effect of from 17,500 to 22,000 times that of carbon dioxide and are released in the atmosphere largely from aerosols and refrigerants. Ironically, the chlorofluorocarbons were synthesized by Midgely at General Motors because they were so inert that they were nontoxic to humans. Their long-term chemical stability allows them to gradually reach lower stratospheric levels of our atmosphere. At these elevations, the hard ultraviolet radiations from the sun decompose the chlorofluorocarbons to yield an unstable oxide of chloride which decomposes the protective ozone layer in the stratosphere creating the ozone hole. There has been some international activity to reduce or halt the production of these CFCs, but it should be known that even if all production were halted today, it would take about 100 years for atmospheric levels to return to baseline.

At present, the combined greenhouse effect of these gases amounts to some 10 to 15 percent of the total, with carbon dioxide making up the remainder. With time it is anticipated that these gases will contribute some 50 percent of the total effect.

That industrial and automobile exhausts cause greenhouse gases to accumulate in the atmosphere is not disputed. The amount and timing of the predicted temperature increases are very controversial, and the consequences are even more uncertain. Among the many uncertainties the role of clouds is important. Warmer surface temperatures should result in increased moisture in the air. Cloud formations could be increased and these may present a surface that would reflect solar energy back into space preventing it from reaching the earth's surface and contributing to the global warming. Just how the different clouds will act in this regard is still uncertain.

Though a predicted mean temperature increase of 2 to 5 °C may sound trivial, the distribution and timing of the temperature increase could cause drought and desertification in lands which now are fertile. It could change the monsoon rains which are so important to vegetation and agriculture in Africa and Asia. It could melt the polar ice caps, raising the level of the oceans and

inundating huge tracts of low land, which could reduce the arable lands creating severe food shortages and starvation. It could lead directly to morbidity and mortality from hyperthermia, affecting primarily the very young and the very old.

Even the expected rise of 0.5 to 1.0 m in sea levels in the next century due to thermal expansion of the oceans and the melting of glaciers and icecaps would inundate large population centers and much fertile land.<sup>3,4</sup> The expected rise may create 50 million environmental refugees world wide, more than triple the number of all refugees today. Mainland coastal regions as well as low islands would be in danger. Cities built on barrier islands and the fertile plains that typically surround deltas are in jeopardy. As much as one-third of Bangladesh with its impoverished millions could disappear, displacing 15 to 35 percent of its population. In Egypt, where only 4 percent of the land is arable and this is mainly in the fertile delta of the Nile, food production could drop and 8.5 million people be forced from their homes.<sup>5</sup> In these already crowded countries there is nowhere for displaced people to go and no new land on which to grow crops. In addition coastal land would be rendered unfit for agriculture by the rising salinity of water tables. Large areas of the wetlands that nourish the world's fisheries would also be destroyed.

Global warming will increase the evaporation of sea water, creating more clouds and more rain and snow. But the precipitation would not be evenly distributed. Climatic modeling does not yet allow sufficient spatial resolution to permit the prediction of changes in areas less than hundreds of kilometres square. Gross prediction, however, has been made. In the United States, it is predicted that the southwestern desert would shift north to cover the midwestern grain belt, which would move into Canada. Climates favorable for growing grain would move from mid-Europe and the middle United States to Canada and Siberia. California would have drier winters, the season when most precipitation occurs. Even if total rainfall levels remain unchanged, the warmer temperatures would cause more of the winter's precipitation to fall as rain, which will mean quick runoffs, soil erosion, winter flooding, and less melting snow to sustain water needs over the summer.<sup>6</sup>

The condition of water supplies, already a major problem, is likely to deteriorate further. Intrusion of salt into surface water as sea levels rise, increased flooding and runoffs contaminated with pesticides, salts, garbage, excreta, sewage, and eroded soil are all likely.

The rise in the level of atmospheric carbon dioxide may increase photosynthesis and the growth of plants under some circumstances, but not always. With increased temperatures and dryness, it may even curtail plant growth. Its effect on weeds and agricultural pests is still largely speculative. Other air pollutants, such as sulphur dioxide and nitrogen oxides (the chief contributors to acid rain), ammonia, hydrogen sulphide and dimethylsulphide, are also toxic to vegetation. Industrial nitrogen oxides and both natural and industrial hydro-

carbons are thought to be responsible for toxic levels of tropospheric ozone, which contribute to smog. Levels of ozone over the eastern United States during the summer are high enough to cause damage to crops and vegetation.<sup>1,7</sup> A similar phenomenon may be responsible with acid rain for the destruction of forests in Germany and eastern Europe.

Another environmental disturbance with widespread potential health consequences is the depletion of the ozone layer in the stratosphere. It is only in the past few years that scientists have appreciated that the gases liberated from commercial processes could reduce the stratospheric ozone layer which forms a shield protecting us and the biota from the damaging effects of the ultraviolet radiations from the sun.

Ultraviolet light includes that portion of the electromagnetic spectrum from 200 to 400 nm. This region is further divided arbitrarily into sub-regions termed: UVA, UVB, and UVC. The last includes wave lengths of 200 to 290 nm and is most damaging to life, but fortunately is effectively blocked from reaching the earth's surface by atmospheric ozone. UVB includes solar radiations from 290 to 320 nm which are many times more effective in inducing erythema than the UVA, 320 to 400 nm. DNA and aromatic amino acids absorb UVC maximally, UVB significantly, and UVA minimally. The pathologic consequences of UV radiations seem attributable to their absorption and disruption of DNA and proteins. An increase in UVB reaching the earth's surface can be expected to result in a substantial increase in all forms of skin cancers, in increased cataracts, and in suppression of the immune system. The last in association with increased malnutrition, contaminated water supplies, insect vectors, and the consequences of crowding may be expected to increase the incidence and severity of all infectious diseases.

Chlorofluorocarbons, which are used in aerosols, refrigerants and other industrial products, rise to the stratosphere where they are broken down by hard solar ultraviolet radiations. The resulting highly reactive compounds undergo further photolytic reactions which destroy ozone, O<sub>3</sub>. Nitrogen oxides liberated into the atmosphere from internal combustion engines and industrial processes are rise to the stratosphere where they contribute to the destruction of ozone. Ozone is formed slowly by the action of sunlight on the rarefield molecules of oxygen in the stratosphere, some 20 to 50 km above the earth. The half life for ozone in the stratosphere is some three to four years. Any process which accelerates its decomposition will interfere with its steady state levels and once depleted the ozone layer may require 3 to 5 years to be reconstituted after the depletion process ceases. In 1985 a hole in the ozone layer over Antarctica was discovered which increased in size the following year. Subsequently a definite thinning of the ozone layer over the North Pole was also noted.

These seasonal regions of ozone depletion are dependent on the slow circulation of the atmosphere and the presence of the chlorofluorocarbons and oxides of nitro-

gen at these heights. Atmospheric scientists are monitoring these processes and measuring the increased incidence of harder UVB wave lengths reaching the earth's surface under the ozone holes. Although human populations are small in these parts of the globe, the oceans are rich in phytoplankton which are the beginning of the food chain for all aquatic creatures. UVB can penetrate several metres into the surface of the oceans where the phytoplankton obtain sunlight essential for photosynthesis. Phytoplankton are highly vulnerable to damage by UVB, so the potential for ecologic disaster is considerable.

Biological diversity, which is already being reduced by human activities, may be a chief casualty of environmental changes. E.O. Wilson has stated "In one sense the loss of diversity is the most important process of environmental change, because it is the only process that is wholly irreversible. Its consequences are also the least predictable, because the value of the earth's biota (the fauna and flora collectively) remains largely unstudied and unappreciated."<sup>8</sup> Even the number of extant species is uncertain and estimates range from 4 million to 30 million species world wide. The impact of the destruction of habitat on the extinction of species is greatest in the tropical rain forests, which occupy only about 6 percent of the land surface. The rain forests already have been reduced by one-half of their original area, and they are now shrinking at a rate of about 100,000 km<sup>2</sup> per year. This amounts to one percent of the cover, or to more than the combined area of Switzerland and the Netherlands. Wilson estimates the annual loss attributable just to the clearing of rain forests at from 0.2 to 0.3 percent of all forest species per year.<sup>8</sup> Thus the global loss resulting from deforestation could be as much as 4000 to 6000 species a year, or some 10,000 times more than the naturally occurring rate of extinction that existed before human beings appeared.

The current preoccupation with the global environmental changes are a necessary exercise to arouse discussion of the important issues discussed. In order to deal intelligently with the issues described their cause must be understood. The root cause of our environmental problems stem from pressures exerted by the unprecedented world population explosion and the strivings of this population for an enhanced standard of living. The world's population is increasing exponentially. We are now adding 92 million more persons to the globe each year (equal to the population of Mexico), and this number has been increasing annually. The exponential growth cannot be sustained indefinitely and predictions are that it will stabilize at between 8 billion and 14 billion sometime next century, according to UN projections.<sup>9</sup> More than 90% of that growth will occur in the poorest countries, and 90% of that growth in already bursting cities.<sup>9</sup>

Industrial production has increased more than fifty-fold over the past century, four-fifths of this growth has occurred since 1950. It is the developed countries of the world that are contributing most to environmental pollution. Though the 5 billion metric tons of carbon dioxide added to the atmosphere yearly divided by the present



world's population of 5 billion persons suggests that each person contributes one ton to atmospheric carbon dioxide. In fact, we in the industrialized countries contribute per person on the average at least 80 times as much as does a person in sub-Saharan Africa.

The large projected population increases in the coming decades are likely to result in heightened rates of environmental destruction. Forests will be demolished to provide fuel and lumber for hard currency to pay off indebtedness, and to clear land for farmlands and pasture as in Brazil. As more people strive for higher standards of living, with all that implies in further energy needs and accelerated consumption of the world's natural resources all the problems discussed will be amplified. A further 5 to 10 fold increase in output will be needed just to raise the level of consumption in the developing world to that in the industrialized world by the time population growth stabilizes in the next century.<sup>9</sup> The industries most heavily reliant on environmental resources and most heavily polluting are growing fastest in the developing world, where industrial growth is urgent and the capacity to minimize damaging side effects is small. Industrialization, agricultural development, and rapidly growing populations in developing countries will need much more energy. But the fivefold increase in energy use which would be required to bring consumption in the developing countries to the level in industrialized countries by 2025 could not be tolerated by our planetary ecosystems, especially if it is based on nonrenewable fossil fuels. Global warming and the other polluting effects of increased consumption probably rule out even doubling the use of energy from current sources. Yet today every country seems to be rushing to promote economic growth.

Even without the predicted loss of arable land by inundation, erosion, and desertification, a virtually certain consequence of the large population increase will be food shortages leading to starvation. The world's grain production increased 2.6 fold from 1950 to 1984. 1989 was the third year in a row, however, in which world grain production fell short of consumption. In 1989 the 1.66 billion tons of grain produced was the same as in 1984, but in that interval the world's population increased by some 440 million persons. Per capita grain production fell by 14 percent from 1984 to 1987. The short fall occurred, however, primarily in the developing world. In Africa per capita grain production fell by some 27 percent. There the number of persons who are "food insecure" (defined by the World Bank as not having enough food for normal health and physical activity) already numbered more than 100 million.<sup>10</sup>

It seems that even this cursory review of the state of the world, should compel us to act now to forestall further environmental damage that may threaten the quality of life and human health. It seems to me that somehow, unfortunately, the debate has been posed to consider what the global environmental changes will be 100 years from now. Uncertainties in predicting how livable our planet will be at such distant time has provided excuses

for present inaction. But as physicians we often must make decisions and take actions in treating our patients before all the information we would like to have is available. It seems a tabulation of existing changes in our environment alone, even without projections into the future, would indicate that we are already tardy in our efforts to halt environmental depredation. □

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# Medical Responsibility and Global Population Growth

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## POPULATION MATTERS

Population matters for the health of individuals, for the socioeconomic development of nations and for the environment. In 1950 the world contained 2.5 billion people and there was little evidence of damage to the biosphere. Now with a world population of over 5.0 billion there is ample evidence of terrible environmental destruction. What are we to expect with a world population of 7.5 or 10.0 billion persons, or in some projections 15.0 billion persons? What does overpopulation mean and what ought we do about it?

One hundred and twenty years ago the English economist Thomas Malthus wrote that population growth would outstrip food production resulting in "misery and vice" and "premature death."<sup>29</sup> Critics then and later argued that technology would offset population growth by increases in production. For the last 100 years they have been seemingly correct and the few who warn of the dangers of population growth have largely been ignored.

Population growth is again a world-wide concern. We are moving towards a global consensus that we have too many people, that the globe is over populated. The 1987 Report of the World Commission on Environment and Development Our Common Future warns that "present rates of population growth cannot continue."<sup>34</sup> Recent emphatic calls for action on population have come from the United Nations, from the US National Academy of Science, the British Royal Society, former World Bank President Robert MacNamara. The United National Population Fund, the International Union for the Conservation of Nature and Natural Resources, the World Watch Institute, the Conservation Fund of the US, World Resources Institute, and other agencies.

These reports each come to the same conclusions. Without population control health for all persons will remain elusive. Without population control less developed countries will find it impossible to break out of the cycle of poverty, population growth and poverty. Without population control environmental degradation is inevitable. Without population control the Malthusian prediction that growth will finally be limited by war, pestilence and famine is likely to be realized.

## PHYSICIANS' RESPONSIBILITIES

Physicians hold a special position in modern society. They are respected as healers, scientists, and authorities on matters of health. They are granted the special privi-

leges of a profession. As a result various responsibilities are commonly accepted by physicians, responsibilities that arise from their knowledge of medicine and medical practice.<sup>18</sup> Because medical knowledge is important for the health of persons physicians have traditionally held that promulgating such knowledge is one of their major responsibilities. For example, when physicians have special knowledge of dangers to health not available to others they have a duty to inform. Dr. Snow took the handle from the Broad Street water pump to call attention to polluted water in a typhoid epidemic.

Physicians responsibilities in patient care often extend to the social and political context of disease. Physicians regularly attempt to influence both life style and environment for patients health as a smoking cessation, seat belt use and gun control. Physicians have responsibilities to act on behalf of general public welfare and for example report certain kinds of infectious disease to state officials or lobbying governments for funding of medically needed programs. A health hazard cannot be neglected as a medical concern simply because the remedy requires political action. Although the proper form and extent of political action by physicians may sometimes be controversial, social responsibility for public health has been a part of the profession since the industrial revolution.

In 1982 Cassel and Jameton put forth a formal argument for the involvement of physicians in the prevention of nuclear war. They claimed that nuclear war was probably or at least possible and would cause unprecedented human suffering and death, that physicians have a central moral responsibility to relieve suffering, that efforts by physicians could help prevent nuclear war and that physicians therefore have a responsibility to work to prevent nuclear war. This conclusion was accepted by tens of thousands of physicians in the United States and hundreds of thousands of physicians around the world.

I believe that a similar "environmental" responsibility argument should compel physicians to work for the stabilization of world population growth. Population growth has reached critical levels. Population growth has profound implications for the health of individuals and the environment. Prevention of population growth can be aided by public education and enlightened international public policy. Physicians have a special responsibility to work for stabilization of global population. I will conclude by suggesting what I think are some of the forms that physician activism in the population issue might take. My argument is that global population growth is a health issue and clearly within the realm of physician competence and responsibility.

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## POPULATION GROWTH

### Population Numbers

There are many ways to look at population growth and its complexities. Population projections use a variety of assumptions about fertility and mortality and their determinants and depending on these assumptions low, medium and high estimates are made of future global populations.<sup>6</sup>

In 1850 the world population was 1 billion; in 1930 it was 2 billion; and in 1990 it was 5.4 billion. The present annual growth rate of world population is about 1.8%, a doubling time of about 40 years. At present growth rates 92 million persons are added to the global population each year, roughly the population of Mexico. 90 percent of these additional persons will live in the less developed countries.

The projections have changed dramatically over the last thirty years, towards higher estimates. In 1963 the United Nations made three estimates for the year 2000. The median projection suggested 6.1 billion people in the year 2,000 – an estimate that appears to be quite accurate. In 1984 the same group, recognizing the need for longer range projections, made low, medium and high projections to the year 2100. This forecast was significant in that for the first time it sought the future time at which zero population growth would be achieved. The median estimate was a final global population of 10.2 billion, while the high growth estimate was 15 billion at year 2100 still short of zero population growth. These projections used as maximum life expectancy of 75 years for men and 80 for women – numbers likely to be underestimates for person living in the next century, at least in developed countries. High rates of contraceptive use are also assumed in the low growth projections.

In 1991 the UN again reassessed its projections and carried them to the year 2200. Population stability was seen at 11.6 billion persons, as opposed to the 10.2 of a decade earlier. In summary there appear to be optimists, pessimists and agnostics with regard to population. Optimists expect zero population growth at a world population of under 10 billion persons. Pessimists foresee global population of 15 billion or more before stability is approached. A small group of agnostics feel that there is no need to be concerned about population growth, a group dismissed by most population scientists.

### The Demographic Transition

Global population change, over an interval of time, is simply the numbers of births minus the numbers of deaths. For a nation, migration must be added or subtracted. For zero population growth, births equal deaths. Socioeconomic development and improvements in the determinants of health initially lower death rates and population increases. Birth rates subsequently decline.

The complexities are summarized in the notion of the *demographic transition*, which describes population growth experienced by countries during economic development. There are three stages of population growth. In

the *first stage*, both birth and death rates are high but similar so that population growth is low. In the *second* (or "population explosion" transition) *stage*, mortality rates, particularly infant mortality rates, fall in response to socioeconomic improvements and population growth is rapid until fertility rates also fall. In *stage three* growth is again stable. The theory is a useful way to think about population growth but has been reformulated in light of more recent understandings.<sup>5</sup>

### The Demographic Trap

Lester Brown, a US Congressional aide who became expert on global environmental issues and now directs the World Watch Institute which publishes authoritative reports including the excellent annual, "State of the World," some years ago examined population demographics and noted that in many less developed countries a fall in mortality had not been followed by a fall in fertility.<sup>3</sup> Brown has described a "demographic trap" in developing countries in which fertility rates do not fall in the second stage of the transition and the high population growth rates are sustained. Many developing countries seem to be "trapped" in the demographic transition, unable to achieve the economic and social gains necessary for birth rates to fall. Levels of income, education, and industrial development remain low. Poverty remains high and the carrying capacity of the local forests, croplands and aquifers is exceeded.

### Population Demography

*Differential growth rates.* The rate of population increase reached a peak of 2.04 percent between 1965 and 1970 and declined to 1.7 percent by 1989 but has increased to 1.8 percent reflecting perhaps increase in birth rates in China. The current 1.8% annual population growth rate reflects rates of 0.5% for the low growth countries of Europe, North America and the Pacific, while the less developed countries are growing at a rate of 2.4% a year. How can a growth rate of 1.8% be hurting the planet? Some writers suggest that because the rate of population growth is slowing there is no population problem.

These growth rates sound innocuous. But the population problem is with the absolute numbers. Population has been increasing smoothly and steadily for a long time. Since Malthus there have been periodic statements of concern. But it is only recently that we have heard of global warming, acid precipitation, loss of species, decline in agricultural reserves. Keyfitz notes the important distinction that population growth is smooth while environmental change may be abrupt and nonlinear.<sup>21</sup> He uses the example of a community of fishermen around a lake. The population of fishermen increases without impact on the fish population until a threshold or critical point is reached at which the reproduction of the fish is interfered with and the fish numbers collapse, perhaps permanently, if the ecosystem is complex. Between 1920 and 1950 sardines were in huge abundance in California's Monterey Bay and supported a large industry. Fished out, they have never returned.

There are two important issues here. First is the notion of renewable and non-renewable resources. Ironically for the near term there seem to be sufficient non-renewable resources. The prices paid for most metals, gas and oil have declined or remain low. In the US gasoline is cheaper than bottled water. It is the renewable resources, lumber, water and fish for example that we may exhaust. Second is the notion of ecological thinking. In human biology, as in all living systems, everything is connected to everything else.

*Births and Deaths.* In nearly all countries the birth rates are declining. But the absolute numbers of births continues to increase and will not peak according to the UN estimates until sometime in the middle of the next century. In the world today there are 130 million births a year. Death rates are also declining. But in absolute numbers again the bad news is that while globally we now have 130 million births a year, we only have 50 million deaths. African countries are typical of those showing a fall in mortality but no accompanying fall in fertility. As a result we are adding each year approximately 90 million persons, the population of Mexico, to the world population.

*Infant mortality.* Infant mortality has fallen dramatically around the world in the last four decades – most dramatically in Japan and other developed countries. Deaths under one year of age per 1000 births fell in developing countries from 56 to 10 and in less developed countries from 180 to 56.

## OVERPOPULATION IS A THREAT TO HUMAN HEALTH

### Food

It is highly unlikely that food supplies can be increased to be adequate for a doubling of the global population. World grain reserves have been falling for the last four years. The current supply would last less than 60 days. Lester Brown and others have made clear that there simply will be insufficient food to feed the expected numbers by the end of the decade.<sup>3</sup>

Agricultural intensification can go some way towards maintaining a balance between food production and population but there are limits to this solution. Productivity gains from intensive agriculture are limited by energy availability, pesticide use, water supplies and the mounting global loss of top soils. In estimates, assuming low levels of technology, 64 countries lack resources to feed themselves. To meet the food needs of a world population of 10 billion would require massive international redistribution of resources.<sup>3,4</sup>

### Environmental Damage Secondary to Population

Evidence is mounting that population growth is altering the environment and the health of humans in previously inconceivable ways. In developing countries there is a new population-driven phenomena of land degradation or what scientists term "desertification." Desertification is the impoverishment of land by human activities.<sup>36</sup>

Its causes are overgrazing, overcultivation, salinization and deforestation. Desertification occurs when the carrying capacity – the number of people a given area of land can support – is exceeded. It turns out that fire-wood resources may be the limiting factor in carrying capacity in temperate and hot climates. Natural cycles of drought further lower a regions carrying capacity and hasten desertification. According to a 1984 UNEP assessment 4.5 billion hectares or 35% of the earth's land surface are threatened by desertification, land that sustains 20% of the world's population.<sup>4</sup> Global warming would intensify these processes.

Overgrazing of marginal lands by cattle is a major cause of desertification. Environmentalists in the United States have recently proposed reform of the livestock economy with the goal of significant reductions in the use of meat as food stuff." A campaign called "Beyond Beef" seeks a 50% reduction in beef consumption in the next ten years, arguing that cattle husbandry contributes needlessly to rain forest destruction, global warming, water pollution and scarcity, desertification, and world hunger.<sup>38</sup>

*Technology vs population.* The belief that population growth is an important cause of environmental deterioration is not universally held. Barry Commoner feels that environmental impact is not correlated with population growth and that polluting technologies and affluence are.<sup>7</sup> Both positions are probably correct, population being approximate cause and technology being the ultimate cause of environmental degradation as suggested by Shaw.<sup>41</sup> We might think that technology is destroying the environment in the developed countries, while human populations are desertifying the developing world. We must limit our affluence and technology, while less developed countries must worry about their numbers. As a planet we must all worry about both.

## POPULATION GROWTH IS A MEDICAL ISSUE

### Teen Pregnancy

Adolescent pregnancy is a major population issue in both developed and less developed countries. Age at the time a first child is an important determinant of lifetime fertility, birth interval and family size. The US annual rate of 95 pregnancies per 1000 women aged 15-19 is among the highest in the world. The rate in Canada is 46 and the Netherlands 15, the lowest reported.<sup>28</sup> Adolescent pregnancies are at high risk of low birth weight and preventable infant mortality. Prevention of adolescent pregnancy is a major unsolved population health issue in the United States.

### Maternal Mortality

A major public health problem associated with high fertility rates is maternal mortality, one of the great neglected problems of health care in developing countries. The World Health Organization estimates that approximately 500,000 women die each year from pregnancy related causes. 98% of these deaths occur in developing countries. Maternal mortality rates are as

much as 100 times higher in those countries than in industrialized countries. The causes are infection, obstructed labor and ruptured uterus, eclampsia, hemorrhage, infection and the complications of induced abortion.<sup>39</sup>

Very young, very old women, and women having their fifth or higher child, are all at increased risk of death during pregnancy. The same efforts that are needed to lower fertility rates in developing countries will lower pregnancy-related maternal mortality, namely improved access to health and family planning services. Family planning in these cases is life saving in addition to fertility-lowering.

### Urbanization

The movement of people to cities is one of the most obvious characteristics of population change in this century. In 1900 only 12 to 14% of persons lived in cities. By the year 2,000, 50% of us will live in cities and 90 percent of this growth will occur in less developed countries. Because of their rapid growth these new urban populations exceed the available housing, sanitation, clean food and water, and health services. Urban barrios have high rates of morbidity and mortality from infectious illness.

Urbanization involves changes in population density, housing, nutrition, sanitation, air and water quality and access to health services, each of which may have separate and important effects. In cross sectional studies urban dwellers have distinct socioeconomic advantages to rural populations. In a recent study in Nigeria more urban adults were literate (51 vs 24%), wage levels were higher (100%) more had access to clean water, toilets and health care facilities than rural adults. Lower infant mortality and increased life expectancy are associated with urban living.<sup>46</sup> The net effect of urbanization is beneficial.

However if one looks at recent urban immigrants living in barrios, the advantages are reversed. In the Nigeria study infant mortality was associated with overcrowding (person/room) and pollution (air and water quality).<sup>46</sup> In Mexico City there are so many people without sanitary facilities that a "fecal snow" often falls on the city as the wind picks up dried human waste.<sup>12</sup>

Population density or crowding means very little. Africa has only 55 persons per square mile, Europe 261 and Japan 857. The important concept is *carrying capacity*. A country is overpopulated when it exceeds the capacity of the environment to support the population. Japan is clearly overpopulated and must draw on many other environments than its own for resources, eg Indonesian rain forests.

### Refugees

Between 15 and 50 million persons are refugees from civil unrest, war and natural disaster. Some number of these leave their homes fleeing famine, desertification, and or toxic pollution. Brown has termed these "ecologi-

cal refugees".<sup>3</sup> The health problems of refugees are well known. Disaster and relief resources are increasingly inadequate to meet the health needs of these new refugees.

### Population Aging

As mortality rates decline in most parts of the world, life expectancy and the numbers of older persons increases. The phenomena of population aging is most characteristic of developed countries but is seen worldwide.<sup>35</sup> The theory of an epidemiological transition describes a three phased movement from high mortality from epidemic and famine, through a period of lengthening life expectancy, to a third phase of chronic and degenerative illness where heart disease, cancer and stroke predominate. Expensive health and long term care services create new economic burdens particularly in less developed nations. As fewer young persons are present to support these elders and the dependency ratio increases. This phenomena may create some pressure for increases in fertility if governments cannot provide for elders. The Japanese government has expressed concern about its rising dependency ratios.

### PREVENTION: WHAT CONDITIONS ARE NECESSARY FOR BIRTH RATES TO DECLINE?

There are four conditions, three health related, that seem necessary to limit population growth: adult literacy, infant mortality reductions, access to family planning services, and improvements in womens' health.

In the developing world these issues must be addressed simultaneously, in a sustained fashion and in a culturally appropriate programs. Sustained, because all of the conditions necessary or population stability must be present for several generations before effects are seen; simultaneously, because population growth is a complex of causes and effects and must be considered wholistically; and culturally appropriate obviously because leaders initiate programs and persons change their reproductive behaviors because of their own motivations.

### Literacy

Literacy of women is perhaps the single most important and remarkably powerful predictor of birth rate. Womens ability to control their own reproductive behaviors is determined by their education. Once empowered educationally and socially women begin to make decisions about the numbers of children they wish to have. Socioeconomic status is known to be the major determinant of health. Literacy seems to be more than a proxy for income, years in school, employment and independent of these factors is positively associated with low birth rates.

In one of the most interesting case studies of the demographic transition in a developing country was seen in the province of Kerala in southwestern India where population growth was stabilized at close to zero even though per capita incomes remained extremely low.

Provincial leaders using international population funding developed a plan that reflected Kerala social, religious and political character. They achieved extremely high rates of literacy, lowered infant mortality, and made birth control easily accessible to achieve their remarkable result.

### **Infant Mortality**

Low infant mortality rates give parents a belief that even with a small family, some of the children will survive to maturity carry the family name and provide for the parents when they are old. African leader Julius Nyerere several decades ago said that, "The most powerful contraceptive is the confidence of parents that their children will survive." Belief that your offspring will die young is a powerful incentive to have many children – children to help with subsistence tasks and to produce family income.

It remains true that adequate nutrition, proper sanitation and basic health care are prerequisites to reductions in infant mortality. The resistance of the problem is well known to efforts in the United States to reduce infant mortality in our inner cities.

Medicine contributes to two problems here. First, primary health care services and family planning services are organized, funded and delivered separately in most parts of the developing world. This historical situation has created bureaucracies competing for funds and not seeing their programs as related. Indeed, at least one distinguished international health physician has argued that saving the lives of infants in undeveloped countries might condemn them to more suffering later on. Maurice King, a distinguished authority on international health urges that we recognize the concept of health as a sustainable state and describes the demographic trap of persons in overcrowded poor nations where population numbers explode while resources collapse with environmental degradation. King has raised difficult ethical issue of reducing infant mortality without family planning efforts saving children to later, "increasing the man-years of human misery."<sup>22-23</sup> The ethical problem is resolved by the recognition that family planning and primary health care services for infant mortality reduction must be part of an integrated approach to womens health.<sup>45</sup>

### **Family Planning**

Family planning is a basic health need and is the conscious effort to determine the number and spacing of births. The right of individuals and couples "freely and responsibly to decide the number and spacing of their children and to have the information, education and means to do so," has attained almost universal acceptance. It was first endorsed in 1968, then by the World Population Council in 1974, and by the International Conference on Population in Mexico City in 1984. Family planning contributes to the health of mothers and children and lowers infant and maternal death rates.

Women who lack or fail at family planning have only two options: an unwanted pregnancy or abortion. The number of abortions continues to rise. The rate is highest in countries with limited access to family planning services. By blocking US funds to countries that permit abortion the anti-abortion community has taken a policy that increases the numbers of abortions, not to mention the maternal mortality of unsupervised abortion.

Family planning works. The prevalence of family planning practice is related to lower birth rates. Access to birth control has improved over the last three decades. But there still is a large unmet need for contraception and safe abortion. Worldwide 43% or 372 million married couples are controlling their fertility through the use of modern contraceptives. In the developed world 52% of couples are contraceptive users and in China the rate is 73%. In the developing world only 27% are users. Less than one percent of the population of Africa is known to have access to birth control, 91% have poor or very poor access to birth control materials.

Family planning is political. Some developing countries have seen the programs as coercive. A frequent complaint of developing countries relates to inequities of resources. Developed countries have 20 percent of the population and use 80 percent of the natural resources including 70 of the energy consumed. Such patterns deny developing countries the economic resources for development and subsequent population stabilization.

In 1984 in response to pressure from anti-abortion groups in the United States the Reagan administration stunned the UN sponsored International Conference on Population in Mexico City that foreign countries are ineligible for US family planning assistance if they used their own funds for abortion services, counseling or referral, similar to the so called "gag rule" on federally funded (Title 10) domestic family planning programs in the US. The "Mexico City" policy resulted in withdrawal of US funds from the London-based International Planned Parenthood Federation. In 1986 the US pulled out of the United Nations Population Fund in protest of China's compulsory birth control programs.

In the absence of accessible and universally effective contraception women do use abortion as an alternative method of preventing or spacing pregnancy. Opponents of abortion attempt to define abortion as "not a method of family planning" to exclude it from discussion. In 1973, the same year that *Roe vs Wade* decriminalized abortion in the United States, Congress passed the Helms Amendment to the Foreign Assistance Act of 1961 prohibiting the use of foreign aid funds for abortion services in recipient countries. The US will not contribute to family planning programs that included abortion activities including counseling or referrals irrespective of legality. What ever their personal feelings about abortion most physicians believe that safe and up to date contraception is essential to womens health and will in fact reduce reliance on abortion for birth control.

## Womens Health and Abortion

In 1987 an estimated 26 to 31 million legal abortions and 10 to 22 million clandestine abortions were performed worldwide.<sup>15</sup> Another estimate is of 40 to 50 million abortions world wide annually of which one quarter to one third are illegal or clandestine. Legal abortion rates ranged from a high of at least 112 abortions per 1,000 women of reproductive age per year in the then Soviet Union to a low of 5 per 1,000 in the Netherlands. The rates in the United States and Canada were 28 and 10 respectively. Abortion rates while increasing in some countries and declining in others have been relatively constant around the world in recent decades. The worldwide trend in the last decade had been toward the liberalization of abortion laws.<sup>25</sup>

Public health officials estimate that between 100 and 200,000 women die each year in developing countries from the complications of clandestine abortion. Abortion is used by many women to terminate pregnancy and space children. Abortion, maternal mortality and womens reproductive health are issues absolutely central to population control. The notion of empowerment and the connection with literacy.

Romania provides an example of the relation of population policy and abortion. The absence of or, in the Romanian case, restriction of family planning service, increases the rate of clandestine abortion and maternal mortality. If pro-life advocates want to decrease the abortion rate they would support family planning efforts. In Romania abortion policies were liberalized in 1957 and birth rates declined. In the 1966 bizarrely pronatalist policies of Ceaucescu abortion again became illegal. Birth rates rose but by 1983 the birth rate had again declined because of clandestine contraception and high rates of illegal abortion. The liberalization of abortion laws after the revolution in 1989 produced a prompt fall in maternal mortality which had been the highest in Europe.

Funding, particular from the Federal government, for research in contraception and reproductive health has been sharply limited in the US in the last decade. Only one major pharmaceutical company is actively developing new contraceptives. The controversy surrounding research and development of RU 486 the anti-progestin "abortion pill" and the French manufacturers refusal to license the drug in the United States is clearly in response to public pressure from pro-life organizations. A recent clinical study of RU 486 as a first trimester abortifacient, used with prostaglandins, had an 96% efficacy rate.<sup>42</sup> Clinical research on progesterone (Norplant) implants has been similarly delayed.

The solution to the problem of population growth appears to belong to women. The empowerment of women meaning access to education, health services, employment and public life is coming to be understood as a major determinant of reproduction. These observations have lead one writer to suggest that "A male dominated society is a threat to public health"<sup>30</sup>.

## Policies Physicians Ought To Support

No goal is more crucial to the fate of the earth than stabilizing human population. The problem can be solved if the right solutions are properly pursued. Population scientists know with a great deal of confidence what factors can dramatically reduce birth rates.

Development assistance or foreign aid is the critical resource that we can bring to countries struggling to control their populations. But our contributions are paltry. In the early 1960s the World Council of Churches recommended that foreign aid be contributed by the wealthy nations at one percent of the gross national product (GNP). In 1970 this standard was lowered by the UN to 0.7 percent. Few nations have reached even this standard. In 1990 the donor country average aid contribution was 0.35% of GNP. United States foreign aid spending in that year was 0.21 percent of GNP.<sup>30</sup> And only a small portion of development assistance, about 5%, is for health related activities including family planning. Sensible foreign policy for population control would return to the 1 percent standard with much larger fractions for family planning services including womens health.

In his book, *Earth in the Balance*, Senator Albert Gore of Tennessee proposes a Global Marshall Plan for preservation of the planet.<sup>14</sup> To assure population stabilization, he recommends that resources be developed for literacy and general education programs, public health programs to reduce infant mortality, and that access to contraception be made universal with culturally appropriate instruction with particular emphasis on breast feeding.

Population issues are complex and must be addressed by each nation and its individual citizens. Complexities included cultural and religious attitudes towards sexuality and the role of women, funds for development, and power relationships between developed and less developed countries. Nonetheless a number of policy initiatives are recommended by numerous groups and studies:

1. Universal access to family planning by the end of the decade.
2. Raising development assistance to 1% of the GNP of developed countries
3. Priority to the education and full economic and political participation of women.
4. Increases public and private support for research in birth control technologies.
5. Mass communication aimed at increasing support for family planning.
6. Attention to issues of womens health and augmentation of integrated family planning and primary health care services for women and children.

Since 1980 the United States has retreated from its strong leadership role on world population. An ideological debate has destroyed the bipartisan consensus on the issue. Because of the perceived connection to abortion family planning US funds for international family planning and contraception research have been withdrawn. These policies must be reversed.

### ACTIONS PHYSICIANS CAN TAKE

If there is a medical responsibility for population growth then what is the prescription? What duty do doctors owe society? The prescription is activism. Activism is an inclusive term covering everything from letter writing and awareness to running for political office. It can be a full time job as in running a community service non profit organization. It can be integrated into ones professional life. Physicians are in an ideal position to educate about the risks of population growth and environmental damage. Physicians are commonly asked for advice on air quality and pesticide toxicity as routine health issues.

One high priority response is to develop national and international networks of concerned health professionals.<sup>28</sup> In the United States and in Canada, Physicians for Social Responsibility organized in 1961 and again in 1980 to educate the public and political leaders about the medical consequences of global nuclear war. International Physicians for the Prevention of Nuclear War won a Nobel Peace Prize in 1985 for these activities. These activities over a decade undoubtedly contributed to the end of the cold war. What is needed now is a similar coalition of health workers from around the world to alert the health professions and the public to the health consequences of population growth and environmental degradation and to build constituencies for population growth controlling policies.

This work has begun. In at least a dozen countries physician environmental groups have come into being in the last two years including groups in Switzerland, Austria, Germany, Italy, Australia, New Zealand and Canada as well as Sweden and Byelorussia. An international Society of Doctors for the Environment was founded 1990 (ISDE Bulletin). Many national affiliates of IPPNW are active in global environmental issues. Regretably population is not a major issue for these organizations.

Attention to these issues was brought in the United States at a conference on Human Health and the Environment: A Program of Physician Education and Action held in Boston on October 10-12, 1992, sponsored by PSR, UNEP, Sierra Club, NRDC, EDF, MIT and the Harvard School of Public Health. The organizers believed that this event would kick off physician organizing in the United States around environmental and population issues.

In summary, the cycle of poverty, ill health and environmental degradation is tightly tied to human population growth. More than 90 million people are added to the world census each year, more than ever before. The world's population is likely to nearly triple its current size

reaching 14 billion before stabilizing. Experts tell us that with a massive effort population growth could be held to 9 or 10 billion. Actions taken during this decade will largely determine whether the human population will double or triple before stabilizing. □

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*I cannot see that lectures can do so much good as reading the books  
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- Samuel Johnson (1709-1784)



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# Dr. John R. LeMoine

## President 1992-1993

### The Medical Society of Nova Scotia

Dr. Rick LeMoine describes his years at Dalhousie University Medical School as an "unbelievable experience." He fondly recalls that time in his life as a great adventure and says that it left him convinced that he had merely scratched the surface of what medicine is all about. Those who know him well will tell you that he is man who thrives on challenges and in particular, enjoys being involved in high tech medicine.

He also has the reputation of getting things done. This impressive trait was an important factor behind the nomination which resulted in him becoming the new President of The Medical Society of Nova Scotia.

Rick LeMoine was born in Sydney Mines, Cape Breton. He received his M.D. in 1974 after completing one of the first straight internships.

"It was in medical school that I decided I would specialize. I was really impressed with people doing respiratory medicine, especially Paul Landrigan. I think many of us end up in a specialty because we want to emulate someone who is a role model."

In 1975, during his medicine residency, he had to think about his future. At one point, he had considered post graduate study in Colorado. This changed when he learned about a San Diego hospital that has the reputation of being one of the leading centres of respiratory medicine in the world.

About this time, he learned he had been chosen to receive an M.R.C. Fellowship. Elated by the news, he immediately called the hospital in San Diego and spoke to Dr. Ken Moser, a world renown respirologist.

"I was crestfallen when he informed me that I would have to wait at least two years to get into his program. I asked him if it would make any difference if I had my own support."

Dr. Moser agreed it certainly would enhance the young doctor's chances but he insisted he wouldn't make any commitment until he had had the opportunity to review the Canadian's credentials. Impressed with what he learned, Dr. Moser invited Dr. LeMoine to join his team. The following July, after dealing with lengthy and mind bogging documentation, San Diego became home for Dr. LeMoine, his wife Corinne and their baby daughter.

"Dr. Moser became one of the major influences in my life. He is a giant in the field of respirology. Working with him was a real honour. During my time with him, we co-authored an article on pulmonary embolism. I am very proud that it is still widely quoted."

In 1978, after receiving his Canadian Fellowship, Dr. LeMoine returned to Halifax to accept a position as assistant professor of medicine. "Those were really enjoyable days," he says, "I was involved with establishing the medical intensive care unit at the Victoria General Hospital and the creation of the Beckwith Lung Unit, a pulmonary function clinic funded by the Nova Scotia Lung Association."

Two years later, he returned to Cape Breton to establish a private practice. It was the ideal time to move back to Sydney. The Woodbury Commission findings had just been released. The Commission recommended that any miner who had been underground for more than 20 years was assumed to have objective evidence of lung disease and could receive compensation. One of the Commission's other recommendations was the establishment of a pulmonary unit in Cape Breton."

Two years later, a trip to California resulted in another important decision. "I had gone there to finish some research. During a side trip to San Diego, I heard about the Sharp Health Centre, a non-profit hospital that had become a top medical centre. The hospital made me an offer I couldn't refuse and on April Fool's Day, 1981, along with my wife who was expecting at the time and our two little girls we were back living in California."

The Sharp Health Centre is recognized as a leader in transplant surgery. It also has the reputation of being a trend setter in information systems. "It was among the first hospitals to institute a fully functioning computerized I.C.U. I had a hand in that. It was exhilarating to be in a place where people were ready to think of new ideas and where there were the resources to fund them." Dr. LeMoine now attributes his fascination with computerization to the major role he played in implementing the centre's revolutionary information concept.

"It was an exciting time for me," he says but adds, "Nevertheless, it did present problems for my family. When you live in California you can't go home for a weekend visit."

In 1989, the LeMoines returned to Sydney.

That was three years ago and now with a busy practice in that community, as well as having been a very active member of Executive of The Medical Society, Rick LeMoine has now been installed as its president.

He doesn't hesitate when he is asked to articulate his top priorities as president. "The organization is not particularly held in high esteem by some of its members. I don't think anyone is at fault. When you have an organization that

has mandatory dues you can expect some people will be disgruntled. I am convinced we need to look at how we can better and more effectively serve our members."

One of his most recent projects has involved examining the structure of The Society and the way it is perceived by its members. "I think this has to be number one."

Other issues are high on his agenda, "Peer Review, clinical accountability, appropriateness of care are all going to be big topics in the next few years. It is important for The Society to be out in front on these issues."

He also emphasizes that he feels strongly about the exact role of the newly formed Joint Management Committee, "I don't see the JMC as setting policy. I don't think it has the time to do that. I see them as our front line people whose main responsibility is to negotiate a number of issues with the Department of Health."

He recognizes that the days ahead aren't going to be easy, "In an era of fiscal restraint, no man is an island - no doctor is an isolated entity anymore. We are all part of the same system. Things have to be done on a cost effective, appropriate basis all the time. The medical profession is under attack in a number of ways but in some ways the attacks are good because they force us to look inside and to examine what we are doing."

Dr. LeMoine says he does worry about the next few years. "I worry that in terms of expectations, certain physician groups in this province, may be somewhat unrealistic. I also worry that medicare in this province is seriously underfunded. For example, we have essentially no home care system and we have trauma care that is essentially "grab and go."

In spite of these concerns, Rick LeMoine's personal crystal ball reveals some very positive things. "I see enormous medical advances in the next ten years or so. I think we'll see a whole host of health problems, not necessarily cured, but controlled in a way we never dreamed possible a few years ago."

On a personal level, Dr. LeMoine admits to being a "Trekie." This may explain why he insists he doesn't want a tombstone but would prefer to have his ashes shot out into space. He also confides that he is convinced being born in Cape Breton means something special. "It's part of a religious experience. There is a metaphysical thing to being a Cape Bretoner."

Without doubt, his wife and children mean the most to him, "I fell in love with Corinne when I was five years old. I use to jump into mud puddles to try to get her attention. It didn't work and for years she ignored me. Finally in grade 11, we began dating."

The couple married during Dr. LeMoine's second year in medical school. (Corinne was on the nursing staff at the Victoria General Hospital.) Today, they are the proud parents of their three daughters, Meaghan, Kara and Amy.

The Medical Society of Nova Scotia's new president is the type of man who likes to get things done in a fair and expeditious manner. It is also obvious he will do his very best to help evolve an organization that is more responsive to its members' needs and concerns. He will, however, do this in harmony with the firmly held conviction that Nova Scotian doctors must be vocal, committed advocates for quality health care. To do otherwise, is definitely not Rick LeMoine's style!

Dorothy A. Grant

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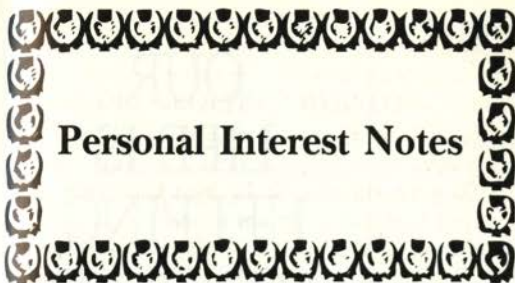
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## Personal Interest Notes

### SENIOR MEMBERSHIP CITATIONS THE MEDICAL SOCIETY OF NOVA SCOTIA

#### Dr. Carl Giffin

Carl Giffin has served the medical community for many years.

He was Chief of Psychiatry at Colchester Hospital from 1959 to 1992. During this time he was Chief of Staff on three separate occasions for a total of nine years. He served as director of Cobequid Mental Health Centre and as director of Psychiatry and Mental Health Services at Colchester Hospital.

He has been President of Colchester East Hants Medical Society, and Hon. Sec. of the Nova Scotia Medical Society. He has served on the Psychiatric Advisory Committee to the Department of Health, on the Medical Review Committee of M.S.I., and as the Medical Society Representative to the Medical Advisory Committee on Driver Licencing. He has been a member of the Provincial Medical Board since 1986, and its President since 1990.

In spite of all the above he has found time to be President of the Willow Street Home and School Association and President of the Kiwanis Club. He was a founding member of J.O.B.S. Unlimited, a sheltered workshop, and was one of the leaders in its formation. He is a deacon of the First Baptist Church.

While a student at Dalhousie he was the first recipient of the Climo Award, which is given for excellence in sports and academic achievement. He was a basketball star and played wing threequarter for the rugby team. He is a regular swimmer, hockey player, golfer, boater, walker and biker.

He loves to sing, and to play the piano and organ.

He is married and has four children, one of whom is Director of Public Health in St. John, New Brunswick.

His contribution to the medical community of Truro and Nova Scotia has been enormous. He is now semi-retired but somehow finds time to contribute his experience and energy.

Dr. F.J. Carpenter  
President, Colchester East Hants Branch

#### Dr. Harold Stanislaus MacDonald

Born and raised in Sydney, Harold received a BSc from St. Francis Xavier in 1946 and his Medical degree from the University of Ottawa in 1950. After completing his internship he headed for Detroit where he completed surgical training. He returned to Sydney in 1955 where he has worked tirelessly ever since. In 1970 he was President of the Cape Breton Medical Society. He spent a total of six years with the Provincial Medical Board as well as time as the Chief of Surgery at St. Rita's Hospital.

Known fondly as "Lefty" for his pitching prowess his other sporting interests include hockey and basketball. The father of seven children and fourteen grandchildren when not at home he can be found rooting for the local hockey team the Oilers.

Dr. John E. Sampson  
President, Sydney Branch

#### Dr. Douglas L. Roy

Doug was born and raised in North Sydney, went to Mount Allison University for his pre-medical training, and to Dalhousie University for his MDCM - three ingredients that ensured a successful career in medicine.

He proceeded to the Royal Victoria Hospital in Montreal for residency training, finishing with an NRC Fellowship at the Victoria General Hospital in Halifax. He was granted a Certification in the Royal College in 1952 and Fellowship in 1973.

He was Head of the Department of Paediatric Cardiology and Professor of Paediatrics for 35 years. In these capacities he touched the lives of many Maritime doctors, as a teacher par excellence, in the classroom, at the bedside, at refresher courses, and community hospital programs. His clinical skills have always been superb. His caring, compassionate approach to his patients have been an exemplary model.

He has been a prolific researcher and writer and his name appears on more than 6 publications and abstracts and others are still in progress.

He is married with four children. His son Peter is a general surgeon at the Victoria General Hospital.

He is an avid sailor, and past Commodore of the Royal Nova Scotia Yacht Squadron. He has been a promoter of the wooden boat heritage of Nova Scotia.

He is a pianist of note and I am sure many of you have heard him providing background music or accompaniment at a medical gathering.

In short, he is a Renaissance Man and a very worthy candidate for Senior Membership in The Medical Society of Nova Scotia.

Dr. Byron L. Reid  
President, Halifax Branch

## Dr. George McK Saunders

Born in 1923, George completed his medical education at Dalhousie University in 1947.

After Interning at Dalhousie University he entered the Department of Surgery as a resident and after three years of training he moved to Boston where further training in General Surgery was accomplished at the world renowned Lahey Clinic.

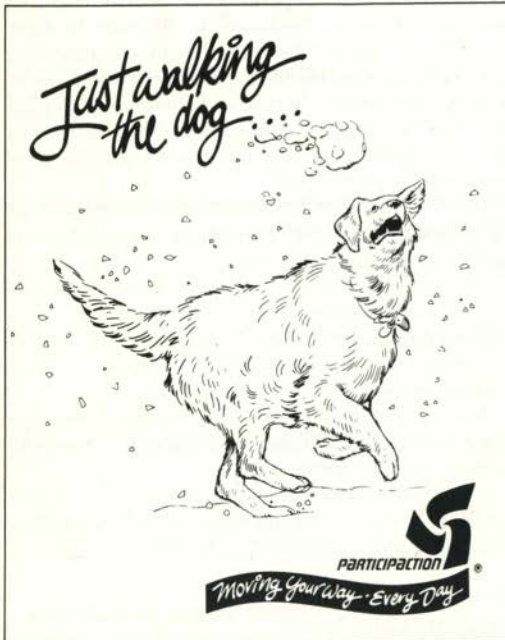
He moved to Sackville, New Brunswick where he practised as a General Surgeon for one year and then started his work in General Surgery based in Amherst at Highland View Regional Hospital.

He has been President of The Medical Society of Nova Scotia in 1968 and of the Provincial Medical Board in 1986.

During his career as a Surgeon he has gained the respect and trust of his patients and colleagues and has served as Chief of Staff until 1984 and as Chief of Surgery until his retirement in 1988.

Dr. Frank Bravo

President, Cumberland Branch



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# Appreciations

## DR. GEOFFREY WHISTON

Dr. Geoffrey Whiston died on April 19, 1992 (Easter Sunday). He was born in Edinburgh, Scotland on January 2, 1924. After high school he joined the Royal Air Force during the World War II, at the age of 18 years. When the war was over he attended the University of Edinburgh where he obtained his medical degree. He did his internship at the Royal Infirmary in Edinburgh and then went into general practice in York, England. In 1955 he emigrated to Canada with his wife Kathleen. He joined the Royal Canadian Air Force as medical officer and flight surgeon. While in the Forces he did his residency in ophthalmology at the Montreal General Hospital. He retired from the Forces to civilian ophthalmology practice in 1973.

He was a founding member and co-founder of the Atlantic Provinces Ophthalmological Society and the first secretary of that Society. After serving three years in that position he was elected President of the Society. At the same time he served as a member of COS Council for Nova Scotia and Newfoundland. He was later elected Secretary of the Canadian Ophthalmological Society for one term. In spite of his busy schedule he obtained his Canadian pilot's licence in Halifax.

He was a lecturer in the Department of Ophthalmology, Dalhousie University and was on consultant staff of the Halifax Infirmary, Victoria General Hospital, Camp Hill Hospital and the Canadian Forces Hospital in Halifax. He was a member of the Canadian Medical Association, the Halifax Medical Society, the Medical Society of Nova Scotia, the Canadian Ophthalmological Society, the Atlantic Provinces Ophthalmological Society, the American Academy of Ophthalmology and the Canadian Aeronautics and Space Institute.

We extend our deepest sympathy to his wife Kathleen.

Dr. Lystra Dayal-Gosine,  
Halifax, N.S.

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## DR. AHMET SLOMIC

Dr. Ahmet Slomic, Radiologist at the Highland View Regional Hospital, All Saints' Hospital, Springhill and the County of Cumberland - died following a very short illness, in the Victoria General Hospital after an emergency operation, on August 5, 1992.

Ahmet was born in Yugoslavia in March 1925. After basic schooling he went to the University of Paris. He later returned to Sarajevo for his medical education. After graduation in 1954 he returned to Paris, at the Hôpital Des Enfants Malade. He started some research there and, to complete this, he went to Copenhagen for two years. On his return his research earned him a Doctorate in Neuro-Physiology. His studies were mainly in the field of Nerve Conduction and Myotonia. He wrote

a series of papers on these topics in German and French Journals. He then started his training in Radiology.

His career was moulded by his very enquiring mind, which can be seen in the wide range of subjects on which he wrote, and his extensive collection of books, reprints and x-rays that he has left behind. In 1972 he was appointed as Associate Professor at the University of Laval in Quebec. During his seven years there he became Assistant Professor, and it was during this time that he started his major work on the development of the human skull in the normal child. This took him to the study of skull abnormalities, Cornelia De Lange Syndrome and the four types of Cranio-Stenoses. He worked in conjunction with two of his Faculty Colleagues, a Mathematician and a Physicist, the first to these papers appeared in 1976.

Ahmet came to Amherst in 1979 and he continued his research, working into the late hours. With collaboration from a Paediatric Neurosurgeon in Paris and his two Quebec friends, he extended his researches, and has now a total of 61 publications with one not complete and another planned which will never be started. A book he had outlined is not ready enough for print.

His interests were far ranging, and he loved to indulge in conversation on many topics. He was a keen sportsman which had seemed to keep him fit. He was beloved by his Departmental Staff, whom he advised and encouraged in their work.

He was very tolerant, hating prejudice and violence. However his life had been marred by both these human failings. He lost nearly half his family in the '39-'45 War and, two days before his death, heard of the murder, in his own home, of a nephew in Bosnia. In recent months the family home had been pillaged and finally destroyed by shelling, all this had been most distressing to him. Although nominally a Moslem, he was an eclectic who found good in all beliefs.

Ahmet will be sadly missed by his two children, of whom he was very proud, Ingmar and Astrid, but no less so by his "Department Family", friends, colleagues and many patients, for he had time for everybody from whatever walk of life.

Dr. G.A. Lawrence  
Amherst, N.S.

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## DR. MURRAY FRASER

Dr. Murray Fraser, one of the last great pioneers of family medicine in this province, died on May 4, 1992, after a short illness.

After receiving his MD at Dalhousie in 1932, he did graduate work in Vienna and Dublin before service in Africa during the war. In 1948, he started what would become a distinguished 40 year career in family practice in Halifax.

Dr. Fraser's contribution to the practice of medicine was tremendous. Unsatisfied with the lot of general practitioners in the early 50's, he organized the Nova Scotia Chapter of what is now the College of Family Physicians of Canada and was its first president. He recognized the need for involvement by GPs in the medical school and became chairman of the Dalhousie Preceptorship program in 1956.

In 1960, he became the first Atlantic Canadian to be elected national President of the College of Family Physicians of Canada and was one of the first recipients of an honorary fellowship from the College in 1969. In 1973, he was named family physician of the year for Canada by this organization.

During all this time, he was a strong role model for the profession, incorporating Obstetrics and many housecalls into his busy practice. It was his custom to make daily hospital rounds and assist at his patients' surgeries, a custom he continued until he retired. Dr. Fraser was an enthusiastic advocate on behalf of his patients and had no hesitation in bending the rules when necessary. He routinely persuaded specialists of his choice to see his sick patients at odd hours and he could find hospital beds that didn't exist. Hospital attending staffmen who neglected to explain their plans to patients became victims of his gentle but firm chiding. He would frequently write poetic notes to successfully obtain forgiveness for parking tickets where colleagues received stiff fines.

Patients loved him. They would take turns sitting on a chair tied to his desk, talking about their families and interests as well as their illnesses and fears. They would call him at home, unabashedly coaxing housecalls during nights and weekends. His annual garden party, held each August at his summer home was the social event of the year for the "over 80s" ladies and required planning of a military scale.

Murray was active in community affairs as well as lending his leadership to the HalifaxYMCA, Maritime Medical Care and the Dalhousie Medical Alumni Association. In return, honors befell him including an honorary degree from Dalhousie in 1974 and designation as Dal Medical Alumnus of the year in 1973.

During the latter part of his career, he concentrated on services for the elderly, including acting as house physician to two nursing homes. Many of the principles which we now apply to Geriatrics, including follow-up care and coordination of services, were second nature for Dr. Fraser.

A widower for decades, he is survived by a son Murray and three grandsons. A few years ago, a scholarship in family medicine was established in his name and donations to it may be made in care of the Dean of Medicine at Dalhousie.

He will be missed by his legion of patients and the many colleague and students who had the privilege of working with him.

Dr. Michael R. Banks,  
Halifax, N.S. □

## OBITUARIES

**Dr. Benjamin R. Maxwell**, (83) of Glace Bay, Nova Scotia died on October 8, 1992. Born in Dominion, Cape Breton County, he received his medical degree from McGill University in 1937; he practised in Glace Bay before taking his residency in diagnostic radiology in 1940. He worked as a radiologist in various Cape Breton Hospitals and recently continued at the Glace Bay General Hospital. He is survived by his wife, a daughter and a son. The *Journal* extends sincere sympathy to his wife and family.

**Dr. Claude F. Keays**, (70) of Halifax, Nova Scotia died on November 17, 1992. Born in Matapedia, Province of Quebec, he received his medical degree from Dalhousie Medical School in 1945. He continued his training in ophthalmology and surgery and commenced practice in Halifax in 1950. He was past president of the Atlantic Provinces Ophthalmological Society, a member of The Medical Society of Nova Scotia, the Canadian Medical Association and the Halifax Medical Society. He is survived by his wife, a daughter, three stepsons and a stepdaughter. We offer sincere sympathy to his family.

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