Occupational medicine in Canada in 1996

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Occupational medicine in Canada presents many paradoxes and anomalies. This paper outlines the history, status, and current direction of occupational medicine in the country, with an emphasis on the unusual features of the Canadian experience.

Key words: Canada; history; occupational policies.

INTRODUCTION

Canada presents many anomalies and puzzles in occupational medicine. Research and education in the field have a long and proud history here, and yet the speciality was only formally recognized a decade ago. Responsibility for occupational health and safety is highly decentralized but occupational medicine expertise is concentrated in a few major urban centres. There are not one but two pathways to specialist recognition, both highly regarded professionally. Canada has joined a continental free trade agreement, but has yet to harmonize occupational health and safety standards within the country itself.

All of these paradoxes make the field of occupational medicine in Canada unusually complicated and challenging. They also make Canada an interesting case study for innovations — and problems — that arise from its unique circumstances.

Profile of the country

Canada is the second largest country in the world in area, after Russia, but has a population of only approximately 26 million people. The major population centres, where industry is concentrated, are situated along or near the US–Canada border. In the thinly populated North, industrial activity is undertaken in some of the harshest climatic conditions on the planet. Politically, the country is divided into ten provinces and the Yukon Territories and the Northwest Territories, which itself will soon be divided into two territories. All of these jurisdictions enjoy considerable autonomy. Canada is a highly regionalized country with considerable diversity among the regions. There is a prominent separatist movement in Quebec which receives international attention and which precipitated a referendum in 1995. The results of this referendum will ensure that for the foreseeable future Quebec will trade and function within the Canadian economic and political framework but will continue to maintain a separate, parallel social and regulatory system. Most of the French-speaking population live in Quebec but substantial French-speaking minorities have been present for generations in New Brunswick, Ontario, and Manitoba, with smaller numbers in Alberta and Nova Scotia. Although the founding peoples are from France and the British Isles, and French and English remain the official languages, the population of Canada today is ethnically diverse and growing primarily by immigration. In particular, a large eastern European influence is most prominent in Western Canada and there are large Italian and Portuguese communities in Toronto; and large Asian communities live in Toronto and Vancouver. The native peoples of Canada also figure prominently in the country's life and politics. The Inuit (Eskimo) already have attained considerable political autonomy in the North. Indian tribes have grown much more militant in recent years and the issue of native self-government is a key one in understanding contemporary Canadian politics.

History of occupational medicine in Canada

The economic development of Canada historically emphasized resource extraction: logging, mining and agriculture. The economy of Canada has depended on these hazardous industries for most of its history.
Occupational health services began in the nineteenth century, with the provision of surgical and medical services. The management of trauma had a high priority, so that surgeons played a major role in occupational health care. In many parts of the country, the first physicians to arrive were attached to the Hudson’s Bay Company, the Royal Canadian (then Northwest) Mounted Police, or the railroads. In remote or isolated sites, it was not unusual for large corporations to have set up complete medical services to provide health care not only to workers, but also to their families. These medical services provided the backbone of the health care system at the fringes of settlement for many years, at a remarkable standard of practice for the time. Prevention of disease such as typhoid fever and tuberculosis and the treatment of acute trauma were priorities in remote mining communities, for example.

Research was undertaken in the 1930s by Sir Frederick Banting (co-discoverer of insulin) on aluminium powder prophylaxis to prevent silicosis. The use of this material continued into the 1970s in some parts of Canada, despite concern over aluminium-induced lung disease.

Dr J. Grant Cunningham established both the first Canadian regulatory agency and the first academic programmes in occupational health in Canada in the 1940s, at the Ontario Ministry of Labour and the University of Toronto. His protégé, Dr Ernest Mastro-matteo, later became a leading advocate of occupational health in this country and in the world at the International Labour Organization.

In the mid-twentieth century, employers added to occupational medical practice the responsibilities of pre-placement (then, 'pre-employment') and periodic medical examinations. These evaluations had many objectives: they were an attempt to identify communicable diseases (particularly tuberculosis), to ensure that workers were fit for the job, and to detect occupational diseases relatively early. This started a trend in medical monitoring that has continued ever since. At least some authorities believe that one root of the current crisis in workers’ compensation stems from this trend. Employers insisted on '100% fit' employees, initially during the era of returning World War I veterans and later during recession years when there was a labour surplus. Attitudes and policies formed during this period may have encouraged removal of less fit workers, confident that they would be taken care of by workers’ compensation or the long-term disability insurance system. At the time, this was not expensive for the employer but costs rapidly escalated in the 1980s. This trend may have encouraged removal of less fit employees, and later during recession years when there was a labour surplus. Attitudes and policies formed during this period may have encouraged removal of less fit workers, confident that they would be taken care of by workers’ compensation or the long-term disability insurance system. At the time, this was not expensive for the employer but costs rapidly escalated in the 1980s.

External clinics provide occupational medical skills on a part-time basis to clusters of industries and a similar trend has developed in relation to hospital emergency rooms and walk-in clinics, both of which provide acute care services on an 'as required' basis. All of these, the off-site occupational health clinic, the hospital emergency room and the walk-in clinic suffer from the major defect that those who provide the care rarely have a sufficiently detailed knowledge of the work environment.

There is a trend in corporate Canada, away from the employment of full-time corporate medical directors. Many of these positions have been totally eliminated, either directly or through attrition at the time of the incumbent's retirement, and others have been converted to part-time roles. The reasons behind this trend are numerous and complex. Many Canadian companies are decentralizing operations and increasing the responsibilities of subsidiaries and local sites. This has lead to a perception that the corporate physician
no longer has a role and can not be afforded. (A similar trend is apparent for occupational hygienists.) In some cases, the existing physician's roles within the corporate environment have served to foster that perception — the stereotyped role model of a physician with only medical diagnostic and treatment responsibilities is too expensive a model to maintain in the face of other cheaper sources of medical care. In other cases, there has not been an awareness, by senior personnel, of the real or potential value of the physicians' services no matter how diverse and forward-looking were those services. Whatever the reason, the effect on the distribution of occupational medical manpower is profound. Increasingly companies are employing consultant services to provide basic occupational medical services. The specific health programmes and the medical services offered may not be sufficient to the entire spectrum of occupational health and safety needs of an enterprise.

In Québec, the Commission de la santé et sécurité du travail (CSST), among other agencies, has the primary regulatory responsibility for occupational health and safety. It does so by requiring prescribed programmes to be implemented in industries and areas in which it declares jurisdiction. CSST proposes a standard contract for the implementation of these occupational health programmes, which are the responsibility of regional jurisdictions (les Régies régionales) to implement. A physician in charge of occupational health at the plant or corporation, who is paid indirectly by CSST, is directly responsible for preparing an enterprise's specific health programme. The programme is planned in consultation with the régie regionale and local community health centres (centre locales de santé communautaire), with approval from the enterprise's own joint (labor-management) health and safety committee. These programmes are mandatory for groups of workers determined by CSST to be in a designated category of high risk. Priority categories one and two are now covered by mandatory programmes; CSST is extending its coverage to manufacturing workers, in priority category three, at present. (The lowest priority category is five, public employees.) These mandated programmes do not necessarily cover the entire spectrum of occupational health and safety requirements of the enterprise. Some occupational health services are provided directly to small enterprises by departments of the 'community health centres', a network of service facilities usually attached to regional hospitals. Large employers may have their own medical services.

Of particular interest has been the emergence of occupational health clinics run by organized labour in Manitoba, Ontario, and Alberta. Usually a combined effort by the federated unions of a province, these clinics have become an important and valuable part of occupational medical practice in Canada, particularly in provinces where there are few occupational physicians. In Ontario, they have been organized with bipartite governance (industry and labour) and work with industry-specific safety associations.

**Academic occupational medicine**

Even in the nineteenth century there was academic activity in occupational medicine. In 1876, for example, Sir William Osler published a paper on coal workers' pneumoconiosis that brought him to local attention in Montreal.

Historically, the major part of occupational health research and education in Canada has been concentrated in a few centres, notably McGill University, McMaster University and the University of Toronto. Smaller programmes were found elsewhere, usually with a particular interest centred on local industrial activities or research opportunities. In recent years, the universities of Alberta, British Columbia, Laval and Saskatchewan have also emerged as major centres, each tending to emphasize a particular area of interest. Even so, smaller units in institutions such as the University of Manitoba have supported active research programmes in occupational medicine.

National funding opportunities for occupational health training and research are very limited. The Medical Research Council is highly competitive in biomedical research and has not been very sympathetic to this field, although they have recently announced their intention to fund projects in related fields. The National Health Research and Development Program (NHRDP) is the principle vehicle for funding population-based research but gives preference to areas of priority to the federal government and its mandate, which places occupational medicine at a disadvantage. NHRDP also tends to fund at a relatively low level. This has led as a matter of necessity to heavy reliance on local, provincial and industrial sources of support. As a consequence, Canadian occupational health research has tended to reach excellence in those topics of immediate concern to Canadian interests: asbestos, silicosis, hydrogen sulphide, heavy metals, ionizing radiation, electromagnetic fields, and the design, implementation and criticism of periodic health surveillance modalities.

Forums at which new research work can be shared and discussed among colleagues in Canada are limited but include meetings of the Occupational and Environmental Medical Association of Canada, the Canadian Public Health Association and the Association des médecins du travail du Québec. In addition to these organizations of physicians, there are sections devoted to occupational medicine in most provincial medical associations. Several provinces also have their own organizations in occupational health and safety, to which some physicians belong. A national professional organization of professionals in the field, the Canadian Occupational Health Association, is now essentially defunct. Organization of particular professions, such as physicians, nurses and hygienists, seem to be more active and successful in Canada than broadly-based organizations devoted to occupational health and safety.

Postgraduate qualification in occupational medicine in Canada is unusual in that there are two distinct
Each serves a particular purpose: one for physicians who train through residency preparation for careers in occupational medicine, and one for physicians who move into the speciality in mid-career.

Physicians who move laterally into the speciality are in the majority and with due preparation are eligible to submit their credentials to the Canadian Board of Occupational Medicine (CBOM). This is a free-standing certification body founded in 1980 to provide a mechanism for recognizing special competence in the field. Candidates are required to complete a written dissertation and an oral examination, to the satisfaction of a panel of examiners. To date, 157 examinees have obtained their status as Certificant of the CBOM (CCBOM), including 97 current practitioners. Although CCBOM is recognized across the country within the speciality as a certification of special competence in occupational medicine, it is not recognized for purposes of licensure by any of the provincial colleges. In 1984, the national medical speciality certifying agency, the Royal College of Physicians and Surgeons of Canada, admitted occupational medicine as a designated speciality, creating a second pathway. The Royal College fellowship (FRCP), is recognized by all provincial colleges for purposes of licensure except in Québec, where occupational medicine is not recognized as a distinct speciality. In practice, the FRCP tends to be a credential for persons who have trained by the traditional residency route who are relatively young and who are in academic or senior levels of practice. The CBOM remains heavily utilized as a certification mechanism accessible to physicians who cannot commit themselves to formal residency training. The professional value of the CCBOM even appears to have increased with the creation of the Royal College pathway. The CBOM itself is planning to play an increasingly important role in speciality affairs.9

The Royal College recognized occupational medicine as late as it did because the speciality was subsumed under that of ‘community medicine’, since 1974, and by ‘public health’ before that, after 1947. The rift caused by that separation has not mended and continues to divide academic departments and qualifying committees, although the inadequacy of the previous arrangement was obvious to all.13

Under the Royal College’s guidelines, adopted in 1986, residencies in occupational medicine now represent a commitment of five years, or four years given previous clinical training. This includes a clinical residency, a year in internal medicine, and three years of learning opportunities pertinent to occupational medicine practice, normally provided by clinical rotations and field placements, with a didactic component covering basic sciences, such as epidemiology. Certification in the United States requires a master's of public health degree or its equivalent, normally in one year. There is currently only one MPH degree in Canada and close equivalents are not generally available. The Department of Public Health Sciences at the University of Alberta reintroduced the MPH in Canada in 1996. The Department of Occupational Health at McGill also offers a distance education course leading to a master’s degree in occupational health.

This model of speciality training has been criticized as excessively narrow, reflecting a bias toward producing a small number of specialist consultants rather than the multiply-skilled practitioners required in practice. However, the Royal College fellowship was designed for a leadership group in academics and senior practice and was heavily influenced by subspeciality training models. More than 48 physicians have now been certified by examination pursing this route (or its equivalent) as Fellows of the Royal College (FRCP). Residencies have been approved at the University of Alberta, the University of Toronto and McMaster University. (McGill University is located in Québec, where the government does not yet recognize occupational medicine's separation from community medicine and has not supported the development of a residency at McGill.) A major initial obstacle for all programmes has been the scarcity of funds for residency stipends. Occupational medicine has fallen through the cracks of the usual hospital-based allocation scheme for assigning residency slots. An exception has been Alberta, where occupational medicine training is viewed as a new paradigm of physician training worthy of support as an experiment and a demonstrator of new trends in community involvement of physicians. It is also worth noting that the previous government of the province of Ontario laid off almost half of the physicians in the occupational health and safety unit of the Ministry of Labour, and the certified specialists were the only ones retained, suggesting the value of the credentials.

**Government services**

As a consequence of jurisdictional issues and fragmented responsibility, occupational health and safety in Canada developed as a patchwork of poorly co-ordinated agencies. In 1972, Saskatchewan developed the first comprehensive occupational health and safety legislation in the country and consolidated activities in one agency. Since then, governmental authority in the area has never tended toward centralization, as it has in many other countries.10

Government services in occupational health vary widely across Canada because the area is a provincial responsibility in jurisdiction; the federal government is involved only insofar as federal employees, the military, or a few federally-regulated industries (such as aviation and the nuclear industry) are concerned or when a role exists for it to facilitate voluntary and co-operative efforts. For example, the federal government sponsors the Canadian Centre for Occupational Health and Safety, a crown corporation (government-owned not-for-profit company) first proposed in 1976, that primarily disseminates information on occupational hazards but has no legal authority on issues of
standard-setting enforcement, or national policy. Federal involvement in occupational health standards came later in Canada, except for federal employees, and began in 1974 with a proposed code on noise exposure. The Federal-Provincial Committee on Environmental and Occupational Health has played a major national role since 1975 in setting the occupational health agenda and reviewing proposed exposure standards. The federal government and the provinces together, with input from industry and labour, worked out Canada's advanced chemical hazard labelling and worker education system, the Worksite Hazardous Materials Information System, which was introduced in 1988. However, the adoption and enforcement of occupational health and safety standards remains in the jurisdiction of the provinces.

Each of the 10 provinces and two territorial governments, and the federal government on behalf of its own employees, has its own occupational health and safety agencies, attached to departments of labour in most jurisdictions. The role of provincial governments in OHS is usually limited to oversight, education, legislation, regulation and enforcement. These agencies are responsible for administering the provincial occupational health and safety acts, conducting inspections and investigations, surveillance of occupational injuries and illnesses, recommending standards and supporting training or research. They vary considerably in services and enforcement policy, with Québec and Ontario generally considered to have the most developed programmes. Governmental activity in OHS is very limited in some of the less industrialized provinces. In Alberta, occupational health and safety inspection is being privatized, with employers held responsible for having OHS audits conducted on their operations by qualified third parties.

Separate from these agencies (except in British Columbia and Québec, where they are combined) are the workers' compensation boards, which are crown corporations that serve the dual functions as claims processors and insurance carriers (rather than allowing multiple private insurance companies). In general, there is little interaction between the occupational health agencies and the workers' compensation boards. In a few cases, efforts are being made to innovate, and to reform the compensation system, such as Alberta's 'window of opportunity programme' which provides a financial incentive for employers in selected industries that improved their performance in the short term.

Ontario is the largest province in Canada and trends in Ontario tend to drive developments across the country. The Ontario Government has made substantial changes to the delivery of occupational health services. As mentioned, the number of occupational medical specialists in the government has been halved and other resources also cut back. This has led to a more reactive approach. It has also resulted in a reduction of the role of occupational physicians — and other technical personnel — in occupational health and safety issues. The emphasis is now on policy and enforcement, not problem solving. At the same time Ontario is maintaining a rather ambitious research and training programme under the direction of the Workplace Health and Safety Agency, a sort of 'think tank' for problem solving.

With the June 1995 election, these trends instituted under the former government of the New Democratic Party may be completely reversed. The current Progressive Conservative government has come to power with a radically different agenda. Some knowledgeable observers fear that an extreme swing of the pendulum to the right may be forthcoming, correcting some of the perceived damage from the extreme left but adding to it its own inflexible and doctrinaire positions. The system would appear to need stability above all but it is not likely to get it any time soon.

Current issues of concern in Canada

Issues of concern in Canada can be divided into two major areas: those that reflect the practice of occupational medicine (e.g., compensation, funding and standards of practice) and others that reflect specific issues (e.g., confidentiality and substance abuse policies).

Government provincial health insurance schemes do not usually pay physicians for work done related to the prevention of occupational illness. Therefore compensation for occupational health physicians must be from third parties — particularly industry. This presents a problem for certain occupations with multiple employees, such as the construction trades, and for continuity in times of employment insecurity. Many of these same occupations are characterized by contract work on various sites. In the past, contractors have been responsible for their own workers and the contracting organization assessed little or no responsibility. Increasingly, however, major employers are extending their training and occupational health and safety programmes to include the employees of contractors.

Standards of practice in occupational medicine vary considerably in Canada. Unfortunately, there are 'occupational medicine' clinics that qualify in name only. This is compounded by a failure of service users to recognize the need for medical specialists and acceptable standards of occupational medicine practice.

Related to the issue of standards of practice is the issue of confidentiality. There is broad consensus in Canada on standards of medical confidentiality and the development of policies related to this issue.1 A few physicians still fail to uphold these standards, however, and there is an ongoing need to educate them about this issue. A serious problem is emerging in Ontario, where the provincial college has declared fitness-to-work determinations to be confidential medical information, subject to specific written permission before release to employers. This could allow workers to 'shop around' until they obtain the determination they are looking for.

An emerging issue relates to substance abuse policies. No clear resolution of some of the legal aspects of
drug testing has yet occurred, although some precedent-setting cases are in the early stages of legal discovery. Random drug testing does not appear to be legally possible within the Canadian context, although 'for cause' and 'pre-placement' testing are carried out by some organizations in a limited fashion. Education, prevention and rehabilitation are the current cornerstones of substance abuse policies within the Canadian context. The issue of substance abuse testing may take several years to resolve but is being actively discussed in occupational medicine, legal, human rights, labour and management areas. There is some concern that the drug testing policies developed in the United States are, in effect, being imposed upon Canada due to the prominent role of American-owner industry in the Canadian economy and the US rules for transportation workers that apply to cross-border transport, despite much lower frequencies of positive testing that indicate that the problem of drugs in the workplace is vanishingly small in Canada.

Several years ago it was suggested that, in future, Canada may be influenced more by models of occupational health services and regulation in Scandinavia, than by the British and American models it has usually followed in the past. This prediction certainly held true for a while in Ontario, where the previous government adopted very liberal principles. Given the many social and geographical similarities between Canada and the Scandinavian countries, such models may be highly appropriate. However, it would be misleading to imply that there is consistency or a national trend. Quebec has developed its own system, largely patterned on European models. Alberta is presently embarking on a radical programme of deregulation and privatization, inspired by a neconservative political philosophy.

Health is a provincial responsibility, funded in part by the Federal government and in part by premiums paid to the provinces and governed by the federal Canada Health Act. Likewise, occupational health and safety standards are primarily provincial responsibilities. The basic context of each province's Occupational Health and Safety Act is relatively consistent across the country. There is more variation in specific regulations and occupational exposure levels. Although one country, Canada has yet to 'harmonize' occupational health standards among its provinces.

The North American Free Trade Agreement contains side agreements that allude to the workplace environment and its impact on the labour force. It is not unreasonable to expect that societal pressure will continue to be brought to bear on the three governments to ensure that worker health is protected and that a 'level playing field' exists from this competitive perspective. Canada, while having relatively good regulations in the field of occupational health and safety, is not consistent in the content, application and interpretation of these regulations. The 10 provincial and three territorial governments vary in their approaches and most certainly do not offer a level playing field to the industrial milieu. This places Canada at a competitive disadvantage — industry will preferentially locate where the bureaucracy is the easiest to deal with. Consistency of application of laws across a national perspective is an important part of that decision-making process.

Environmental medicine has become an increasingly important focus of occupational medicine practice, as illustrated by the name of the national association (the Occupational and Environmental Medical Association of Canada). This is largely because areas of corporate responsibility have broadened, requiring greater flexibility among practising occupational physicians, and because of the close relationship in content. However, occupational medicine in Canada nearly lost its representation of this critical area by default. Practitioners of a different form of 'environmental medicine', emphasizing multiple chemical sensitivity, have become established in recent years, particularly in British Columbia and Nova Scotia. These practitioners were appropriating the rubric of environmental medicine for themselves until it was 'reclaimed' by occupational medicine. The colleges (licensing bodies) in some areas, such as Alberta, now only recognize the term as the exclusive speciality designation of physicians in either occupational or community medicine.

In the opinion of some observers, several other relevant trends came together in the period in the late 1960s and early 1970s, immediately following the introduction of the Canada Health Act and the reconstruction of the health care finance system. Organized labour was electively strong and had won many wage and contract concessions in the manufacturing sector. Labour then turned its attention to social programmes and became increasingly active in issues related to human rights, confidentiality and occupational health and safety. Governments, particularly in Ontario, were very responsive to this trend. The Ham Commission in 1978 recommended the first provincial occupational health and safety regulators in Ontario and introduced the joint worker-management responsibility system in the workplace. The Weiller report on the Workers' Compensation Board of Ontario led in 1986 to the formation of the Occupational Disease Standards Panel, originally the Industrial Disease Standards Panel, which is a quasi-independent group that advises on scheduled disease and criteria for rebuttal. In the midst of this change, occupational physicians in Canada were fighting to create an independent specialty, first by lobbying the Royal College of Physicians and Surgeons and, when response was slow in coming, by establishing the Canadian Board of Occupational Medicine and conducting their own certification process.

In the 1980s, many of these trends came to the end of the line. Union membership plummeted and unions played an increasingly marginal role in politics, confined largely to Canada's socialist third party, the New Democratic Party. Joint responsibility increasingly became a bipartisan conflict as occupational health and safety issues became politicized and gov-
Government attempted first to stay neutral and then took sides (with workers by the Liberals in Ontario, with management elsewhere). Occupational medicine became a speciality recognized by the Royal College but played little role in these developments.

In the 1990s, Canada is again reorganizing its health care system and occupational physicians again risk being marginalized. This time, however, the speciality has hidden strengths. As many provinces move to a regionalized health care system, renegotiate reimbursements for health services and downsize the physician's role as gatekeeper, medical associations have their hands full protecting the interests of the great majority of their members and avoiding internal divisions between the specialists and primary care physicians. Occupational physicians are much less vulnerable than other physician groups because their reimbursement has not come from provincial funds. Likewise, occupational physicians are much less affected by the reorganization of hospital governance and the restrictions on access to some health services. Finally, occupational physicians are already practising in a mode much closer to managed care systems than their colleagues in private practice. This puts individual occupational physicians in a unique position, with marketable skills and less to lose than other specialists in the brave new world of health care. However, physicians who are not certified specialists in occupational medicine have seen their positions in both industry and government disappear and have often had their functions replaced by occupational health nurses, ergonomists and hygienists, for whom there is now a labour market surplus. The question, as always, is 'where do we go from here?'

REFERENCES