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## Doctors and Social Responsibility

How many patients do physicians examine whose illness can be at least in part ascribed to environmental conditions beyond the competence of medicine to rectify? A lot! There are the obvious instances of traffic crash victims, drug and alcohol abuse, and a variety of ills stemming from ignorance of proper personal health care. Then we have the more subtle manifestations of psychic disorders, actual and potential malnutrition, child abuse, stress, and fatigue to name a few.

So much of the physician's workload is related to the unhealthy catalytic action of certain social conditions over which the individual has little or no control that it is a wonder many doctors don't either throw up their hands in despair or turn from direct medical care to crusades aimed at correcting the situations in which their patients seem trapped.

Actually, neither course would be particularly productive.

What can physicians do?

The individual physician comes into contact with a great many people, all of them troubled. He or she has to deal intimately with their personal needs. It follows, then, that doctors should be extremely sensitive to a wide variety of social needs.

If we stop to think for a while, it becomes obvious that the medical profession is in a unique position. Because doctors deal intimately with such a wide variety of problems which have their origins in the mechanics of society as well as in the natural disease cycle, the country as a whole expects them to speak out on the social correctable problems they identify through their patients.

People are disappointed and confused when physicians do *not* speak out. Who can blame them?

The hard facts of the matter are these: The physician must assume the responsibility of identifying problems and needs as they are manifested through his patient contacts. Medicine's responsibility must extend beyond the clinic walls and into the life of the community.

This does not mean that physicians should effect or even offer solutions. However, they must publicly identify problems and needs so that those with the authority and the will to act can at least be aware of them and at best move toward their correction.

To paraphrase the opening words of the Medical Society's charter, the Society is committed to the advancement of the best possible health care for all Nova Scotians. If we do not speak out when the need is obvious to some, although hidden from others, are we fulfilling that commitment?

A doctor's responsibility is clear. It is to care for and heal the sick and the injured. It is also to prevent sickness and injury whenever it is in his power to do so. The identification of cause is an important first step in that direction.

A doctor is, after all, more than a healer. He must be a spokesman for the well-being of his patients. □

Dr. J. A. Myrden  
President  
The Medical Society of Nova Scotia



# Dr. Clarence L. Gosse

## OUR NEW LIEUTENANT GOVERNOR



The ten year old Newfoundland expatriate who first started making his mark in Nova Scotia as a Canning school boy may even then have had his sights set high. If so, we can be grateful both in retrospect and now.

Dr. Clarence L. Gosse's appointment as Lieutenant Governor of Nova Scotia is more than simple recognition of expertise in the fields of medicine, business, wartime service to his country and public service to his fellow citizens. It is a tribute to years of dedication to the medical ethic of duty and compassion and to an obvious commitment to the betterment of the lives of all with whom he came in touch.

To list Dr. Gosse's accomplishments would require two pages replete with dates and titles. But perhaps a more human picture can be drawn when we consider his involvement in affairs which go beyond the strictly medical. For instance, he was the founder of Dalhousie University's Medical Journal and is a former president of the student medical society. His past presidency of the Nova Scotia Human Rights Federation and his past chairmanship of the Halifax-Dartmouth United Appeal along with his recently relinquished chairmanship of the Nova Scotia Council of Health underline his interests in the planning of and structure for social improvements.

Certainly his medical credentials are impeccable, from his 1939 medical school graduation and subsequent post-graduate training in urology, through his D-day beachhead services in Normandy to his private practice in Halifax and a succession of senior responsibilities in area hospitals.

National and international medical associations owe him a debt of gratitude as does the field of education and The Medical Society of Nova Scotia itself which he served as president in 1963.

In concluding this brief tribute, perhaps we should note that Nova Scotians have in their new Lieutenant Governor a man of skill, patience, understanding, good humor and a strong dedication to the job at hand. Those of us who have worked with him over the years can attest to that. □

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# Doctors and Dependency

J. F. Nicholson,\* M.D., C.M., F.R.C.P.(C)

Halifax, N.S.

*"The Doctor who treats himself has a fool for a patient". Anon.*

When I began psychiatric practice in the early 1950's, the "drug-scene", as we now call it, was something we read about happening to jazz musicians and the beats of San Francisco. In those benighted times, our patients who became dependent on narcotics constituted our major problem with patient misuse of drugs. Most of these arose from the legitimate use in a painful affliction, or barbiturate addiction from incautious treatment of insomnia.

In our own and allied professions it was another story — and statistically the largest number of drug misusers of all kinds of sedatives, depended in a direct ratio on the ease of getting them. Doctors, dentists, pharmacists, veterinarians and nurses were very frequently seen for treatment of their dependencies — and quite frequently rendered themselves unfit to carry on their work. It seems to me, and my colleagues confirm this, that there have been many fewer nurses, druggists et al caught up in this type of drug misuse in recent times, probably as a result of the much closer check kept on narcotics and hypnotics by the Dangerous Drug Division of the Federal Food and Drug Directorate. Hospital wards, and pharmacies must keep a very strict accounting of a wide number of such chemicals, and shortages are glaringly obvious.

However, problems with Doctors seem to be even more troublesome than in the past. Since I have been associated with the Provincial Medical Board there has come to our notice many doctors who have attracted the attention of a complainant because of misuse of drugs, and probably there are as many whose conduct has not been as obvious. Drugs involved include Demerol, Morphine, Barbiturates, minor tranquillizers and the stimulants (i.e. amphetamine). As is the case in other studies, alcohol continues to be the most abused substance and the pattern may be quite varied — from the steady "non-drunk" type of use to the paroxysmal — at least four doctors have come to their deaths in the past two years either by suicide or misadventure. These fatalities were closely related to the misuse of drugs and alcohol.

Patterns of misuse are as varied as the individuals supporting them. Quite frequently gastrointestinal pain, headache, or aching in the site of some previous medical or surgical painful area (e.g. old fracture femur) is the stimulus for analgesia. This should not necessarily be considered as psychogenic regional pain — but quite frequently the pain becomes a signal for the need of easement; for a buffer between the physician and his troubles. It will likely come

on when the Doctor is stressed, tired, sleepless or having to make difficult and soul-searching decisions.

Sleep disturbance can occur with or without pain and if the doctor treats himself (and who doesn't to some extent) will require increasing doses of hypnotic (all are addicting) to maintain sleep. Doctors are often obsessively concerned with getting enough sleep to last them through the following day, quite frequently overdo it and need the stimulation of psychic energizers the following day.

There is no standard addictive personality but there does seem to be a constellation of personality factors in people that misuse drugs. Doctors who misuse drugs tend to be more like addicts than the non drug using M.D.'s. The drug abusing doctor is often sensitive, thin-skinned and highly self-critical. He is frequently a person of strong dependent needs, which are largely unmet and indeed even not recognized by himself. It could be that he over-identifies and over-sympathizes with his patients so that he meets both reasonable and unreasonable demands and does not set legitimate priorities for himself. He thus chronically overworks, perhaps even becomes a work addict and gets his rest and ease through drugs. After an addictive pattern is established it is likely that he unconsciously expiates his guilt by chronic overwork and perhaps justifies or at least rationalizes to some extent his need for the easement brought by sedatives and narcotics.

I have thought that the episodic drinker is operating under similar dynamics and indeed the doctor is often involved with both alcohol and other medications. Naturally this complicates his life considerably — often leads to widespread knowledge of his difficulties among his patients and colleagues, car accidents, impaired driving charges, and worst of all severe episodic professional incompetence.

The steady drinking doctor often becomes dependent in a subtle way, and while he may not be grossly impaired in the acute ways above mentioned he suffers a chronic deterioration affecting his family life, socialization, and most of all his medical competence.

When the physician-patient presents for help either motivated by his own insights and fears, or by pressure from his family, colleagues or other agencies, there is usually great difficulty in getting him to accept the seriousness of the situation. The same repression and denial which has assisted him in concealing his plight up to this point, is working to thwart the efforts of his helpers. He feels "a little rest", "a short vacation", "a weekend in

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hospital" will be enough to reestablish his control. He questions who will look after the multitude of his overdemanding patients, and rightly believes that few will serve them as he does.

If the physician-patient has been involved with alcohol and/or drugs to a sufficient extent to endanger his health or practice, I think it is mandatory that his withdrawal be conducted in hospital. It is worth noting that most addicted people, (and M.D.'s are no exception), tend to minimize the amount of alcohol and barbiturates they are taking, and to exaggerate the narcotics. This can present a danger in the first instance, as too rapid withdrawal of barbiturates, other hypnotics and minor tranquilizers, is accompanied by seizures which may be fatal. The withdrawal should be gradual and well covered with anti-seizure medications such as Dilantin (100 mg. t.i.d.) and Valium (10 to 20 mg. t.i.d.).

Demoral, morphine and other narcotic withdrawal, especially if the pattern of abuse is florid, are better handled in hospitals with closed facilities (i.e. mental hospitals) as it is difficult to control the amount of drug a determined addict can obtain in a general hospital, thus making the graduated lessening of the dose impossible.

The withdrawal, though hazardous is really the easier part of the whole affair. Rehabilitation is difficult, prolonged, and fraught with relapses.

Probably most physician-addicts cannot resume general practice successfully. The stress of practice, his own vulnerability to patient demands, and the constant temptation afforded by close access to medication, make it unlikely that he can establish new patterns of practice and living. If, as often happens, his longsuffering spouse is coerced into being the policeman, she becomes his enemy, one more agency to be outwitted in the fight to maintain an equilibrium with drugs.

In my opinion, based on experience and my reading, the rehabilitation is most secure in the doctor who makes a determined effort to change his way of living. This usually involves accepting a salaried position, more or less nine to five, out of direct contact with medications, though not necessarily giving up patient contact. He must arrange that

demands on him are modified through a devoted secretary or similar filter. He must try to develop interests in family activities, hobbies, or social activity to fill the gap left by the chronic overwork.

He must watch himself carefully in his use of alcohol, tranquilizers and even APC&C (Dr. Alvarez to the contrary, I have seen several physicians who abused aspirin compound with codeine).

One point worth mentioning — even many years after a successful withdrawal the patient is still vulnerable and can easily become involved again, even through the legitimate use of painkillers, e.g. post op., myocardial infarction, etc. These must be carefully monitored and withdrawn as soon as possible.

### Summary

1. Significant numbers of physicians become dependent on drugs and/or alcohol.
2. Patterns of addiction are protean.
3. Some personality characteristics are discussed.
4. Difficulties of rehabilitation are outlined.

"... by a sleep to say we end the heartaches and the thousand natural shocks that flesh is heir to." Hamlet. □

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## Medical Estate Planning Services

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# Attitudes of Nova Scotia Physicians to Child Abuse

J. P. Anderson\*, M.D., F.R.C.P. (C),  
F. Murray Fraser\*\*, L.L.M.\*\*  
and Kevin Burns\*\*\*, M.S.W.

Halifax, N.S.

In June 1973, a report entitled "Child Abuse in Nova Scotia"<sup>1</sup> was released to the Federal Government of Canada, the Government of Nova Scotia and the public at large. This paper will attempt to summarize some of the knowledge and attitudes of 144 Nova Scotian physicians with regard to child abuse and related subjects. Some medical and radiologic aspects of child abuse have recently been outlined in the Bulletin<sup>2</sup>.

## METHODS

Students from the Dalhousie Law and Medical Schools and from the Maritime School of Social Work designed a questionnaire to determine the knowledge and attitudes of 1000 Nova Scotia professionals about child abuse. With the help of statistical consultants, random selections were made from published lists of eight professional groups including physicians, lawyers, social workers, nurses, school teachers, police officers, journalists, and clergy. It was felt that members of these professions would have the greatest opportunity to be directly involved in the diagnosis, reporting and management of child abuse.

For the physicians, the names of the doctors in the survey areas were compiled from information obtained from the Registry of the Provincial Medical Board of Nova Scotia. Since it was not feasible to identify only those doctors who would deal with children, the final list included general practitioners, specialists, medical resident physicians and medical doctors engaged in research. The original plan was to interview 225 Nova Scotia physicians. By the end of the study, 144 physicians had completed the questionnaire. Because some of the physicians on the Registry had left the province and because the survey was conducted in the summer months, 1971, the physician sample was smaller than hoped.

## THE LAW IN NOVA SCOTIA

1) "Every person having information whether confidential or privileged of the abandonment, desertion, physical ill-treatment or need for protection of a child shall report the information to a society or the Director"<sup>3</sup>.

Under the Act, "Society" refers to a Children's Aid Society and "Director" refers to the Administrator of

Family and Child Welfare for the Province of Nova Scotia. Depending on geographic location, either a society or Director has jurisdiction over every child in Nova Scotia.

Furthermore:

2) "No action lies against a person who gives information under subsection (1) unless the giving of the information is done maliciously or without reasonable and probable cause".

Table I  
Profile of Doctors Selected (N=144)

Sex:	Male:	93.1%		
	Female:	6.9%		
Marital Status:	Married		91.0%	
	Widowed		2.8%	
	Divorced		0.0%	
	Separation		0.0%	
	Single		6.2%	
Religion:	Protestant		51.4%	
	Roman Catholic		21.5%	
	Jewish		5.6%	
	Other		11.1%	
	None		9.7%	
Geographic Location:	Halifax Dartmouth		31.3%	
	Halifax County		4.3%	
	Kentville		19.4%	
	Truro		10.0%	
	New Glasgow		11.6%	
	Antigonish		17.5%	
	Sydney		11.0%	
Age:	Over 71		1.4%	
	52-71		30.6%	
	32-52		56.3%	
	22-32		11.1%	
Number of Children:	None	13.2%	4	12.5%
	1	18.1%	5	4.9%
	2	20.1%	6+	4.2%
	3	27.1%		

\*Director, Outpatient Services, The Izaak Walton Killam Hospital for Children.

\*\*Associate Dean, Faculty of Law, Dalhousie University.

\*\*\*Director of Family and Child Welfare, Province of Nova Scotia.

## FINDINGS

A profile of the physician respondents appears in Table 1.

Some of the significant questions follow:

*Question:* "During the past three years how many cases of child abuse either suspected or proven have you been directly involved in through your work?"

	Physicians' Responses		All Professionals	
None:	86	59.7%	367	52.2%
1 to 5:	48	33.3%	253	36.0%
Over 6:	10	6.9%	83	11.8%
	144	100.0%	703	100.0%

An analysis of the response confirms that many cases of child abuse, suspected or proven, are not being reported as required by law.

Although there may be treatment in unreported cases, the failure to report precludes the involvement of a professional team which is anticipated under the reporting legislation.

Other data from the study<sup>1</sup> suggests that one might estimate that over 300 cases of child abuse were handled by concerned professionals over a five year period (60 cases per year).

In the United States<sup>4</sup> studies have indicated that a realistic assessment of the incidence of child abuse is between 200-225 cases reported per million population per year. Van Stolk estimates that there should be 4275 to 7400 cases of child abuse reported annually in Canada<sup>5</sup>. The figures are so divergent that Canada's reporting systems must be inadequate. Nova Scotia should expect approximately 180 such incidents per year.

It is of interest that since the report was released in June 1973, there has been a marked increase in the number of cases reported.

*Question:* "Who do you think should have the major responsibility for dealing with the problem of child abuse?"

	Physicians' Responses		All Professionals	
Children's Aid Society/ Dept. Public Welfare	38	26.4%	264	37.6%
Multidisciplinary Team	37	25.7%	118	16.8%
Family Court	19	13.2%	87	12.4%
Family Doctors	15	10.4%	48	6.8%
Other Social Agencies (Existing)	4	2.8%	24	3.4%
Police	4	2.8%	23	3.3%
Other	27	18.7%	179	19.7%
	144	100.0%	703	100.0%

This was an open-ended question and the answers were categorized. The 16.8% of all professionals favouring a multidisciplinary team was considered quite remarkable; especially since such a facility hardly exists in actual fact. In looking more closely at the data<sup>1</sup>, 25.7% of doctors

opted for such a team and 25.8% of social workers polled, opted for the team.

It could be that this is offered as a panacea to solve all kinds of problems — not just child abuse; further, it may mean merely be a term that is in more common parlance in medicine and social work than in law or the other professions. It was concluded however that doctors and social workers pay more than lip service to the multi-disciplinary team approach and that this method be encouraged with other professions.

Since release of the report in June 1973, case conferences are being regularly held in the Metro area with input from physicians at the Izaak Walton Killam Hospital for Children, the Children's Aid Society of Halifax, the Department of Social Services of Dartmouth, and Public Health Nurses.

Public Health Nurses have been shown to be an outstanding source of case finding. In addition, if cases are suspected but not proven, the public health nurses are in the best position to conduct home surveillance of such children under the guidance of a family physician. This concept must be expanded and encouraged. It is far more acceptable in our society to have a visiting nurse examine a baby and remove the diaper, than it is for a social worker.

Several psychiatrists have recently been extremely successful in rehabilitating "battering" parents. They are a valued part of the "team".

*Question:* "What do you think are some of the most important causes of child abuse?"

The 703 professionals gave a total of 1847 responses as follows: (open ended categorized responses):

1. Mental, emotional or psychological instability	282
2. Other (Could not be categorized)	257
3. Alcoholism	251
4. Low socio-economic status:	244
(i) inadequate housing	
(ii) financial problems	
(iiii) unemployment problems	
(iv) lack of education	
5. Marital problems	139
6. Low frustration threshold or uncontrollable anger	98
7. Unwanted child	96
8. Immaturity of perpetrator	80
9. Behavioural problems of child	80
10. Lack of understanding of children or inability to cope with child rearing	72
11. Perpetrator abused as child	41
12. Too many children in household	33
13. Use of drugs	31
14. Low intelligence of perpetrator	30
15. Lack of time or love devoted to child	29
16. Form of discipline used with child	26
17. One parent household	19
18. Marriage at too young an age	12
19. Child born out of wedlock	11
20. Child of previous marriage or substitute parent in household	11
21. Lack of spiritual training	5

1,847



*Question: "Do you think that almost anyone could, at some time, injure a child in his care, deliberately or in anger?"*

	All Professionals	
Yes	520	74.0%
No	174	24.8%
Don't know	7	1.0%
Won't answer	2	0.2%
	703	100.0%

Physicians responses were not statistically different from the above responses. (69.4% of physicians responded "yes").

*Question: "Do you think you yourself might possibly injure a child at some time?"*

	Physicians' Responses		All Professionals	
Yes	59	41.0%	252	35.8%
No	80	55.6%	420	59.7%
Don't know	4	2.8%	30	4.3%
Won't Answer	1	0.7%	1	0.2%
	144	100.0%	703	100.0%

*Question: "Was there ever a time when you could hardly keep yourself from injuring a child in your care?"*

	Physicians' Responses		All Professionals	
Yes	30	20.8%	148	21.1%
No	112	77.8%	551	78.4%
Don't know	0	0.0%	2	0.2%
Won't answer	2	1.4%	2	0.2%
	144	100.0%	703	100.0%

In all three preceding questions, the interpretation of the word "injure" is open to some question. The Research Team used the term "injure" with the terms "deliberately" or "in anger", and interpreted this as meaning a serious injury or something that could be physically damaging to the child. It is possible that many of the respondents may have interpreted "injury" as something as mild as a tap on the hands or a slap across the cheek, or as severe as throttling a child in anger.

It was considered surprising that so many professionals had insight into their own potentials for frustration, anger and even violence against children. This suggests that, in future there will be an increasing professional acceptance of the concept that abusive and neglectful parents need society's help and rehabilitation and that "locking them up" is no solution for these families.

*Question: "Could you suggest two ways to reduce the problem of child abuse?"*

#### First Suggestion of All Respondents:

1. Family Life Education and Counselling	198	28.2%
2. No answer	72	10.2%
3. Publicity to promote public awareness	65	9.2%
4. Other (Could not be categorized)	62	8.8%
5. Earlier and more frequent reporting	47	6.7%
6. Alleviate stress due to inadequate socio-economic living conditions	36	5.1%
7. Improve child welfare agencies and procedures	35	5.0%
8. Family Planning	31	4.4%
9. Stiffer penalties for perpetrators of child abuse	26	3.7%
10. Increased awareness of signs of child abuse by professionals dealing with child abuse	25	3.6%
11. Expand investigative powers of child welfare agencies	15	2.1%
12. No specific response	13	1.8%
13. More extensive home services	12	1.7%
14. Earlier and more effective mental health treatment	11	1.6%
15. Coordinate professional treatment of the problem	9	1.3%
16. Improve legislation for the protection of children	8	1.1%
17. More time spent with children by the parents	8	1.1%
18. Improve the evaluation of prospective foster and adoptive homes	7	1.0%
19. More research into child abuse	7	1.0%
20. Compulsory mental or physical examination of the general public	6	.9%
21. Exposure of the perpetrator to the public through the media	6	.9%
22. Establish a central registry of suspected or proven cases of child abuse	2	.3%
23. More spiritual training in the home	2	.3%
	703	100.0%

*Question: "Should school principals strap children for disciplinary purposes?"*

	Physicians' Responses		Teachers' Responses		All Professionals	
Yes	60	41.7%	40	60.6%	256	36.4%
No	79	54.9%	17	25.8%	383	54.5%
Don't know	2	1.4%	1	1.5%	18	2.6%
Won't Answer	0	0.0%	0	0.0%	1	0.1%
Depends	3	2.1%	8	12.1%	45	6.4%
	144	100.0%	66	100.0%	703	100.0%

The majority of professionals are against school principals strapping children. However it is by no means an overwhelming opinion and analysis by groups is important. Only 9.0% equivocate by saying they don't know or it depends on the circumstances.

Many jurisdictions in North America outside Nova Scotia (e.g. British Columbia, Toronto) have moved to eliminate corporal punishment in the public schools. This response from professionals randomly selected supports a similar course of action in Nova Scotia.

*Question: "Do you know of any laws provided to protect children in incidents where they are injured by someone caring for them? Please specify what they are."*

	Physicians' Responses		All Professionals	
1. Criminal Code	5	3.5%	64	9.1%
2. Child Welfare Act	12	8.3%	158	22.5%
3. Criminal Code and Child Welfare Act	1	0.7%	43	6.1%
4. Don't know (stated)	68	47.2%	218	31.0%
5. No answer	55	38.2%	208	29.6%
6. Other	3	2.1%	12	1.7%
	144	100.0%	703	100.0%

*Question: "If a person reasonably believes that a child is probably being abused, is he under a legal obligation to report this information?"*

	Physicians' Responses		All Professionals	
1. Yes	70	48.6%	360	51.2%
2. No	31	21.5%	160	22.8%
3. Don't know	43	29.9%	183	26.0%
	144	100.0%	703	100.0%

In view of the fact that physicians are often the first professionals to come in contact with cases of child abuse, it is surprising that less than 50% recognize a legal obligation to report this information.

It is possible that the 21.5% of doctors who deny a legal obligation to report may regard their doctor-patient relationship as privileged, (it is not privileged in Nova Scotia law). However, another almost one-third of physicians frankly don't know if they have a legal obligation to report child abuse. Why should this be? Obligatory reporting laws with immunity provided to the "reporter" only came into existence in 1968. Although ignorance of the law is no defence, nevertheless physicians cannot be expected to keep abreast of all changes in federal and provincial legislation.

Recent graduates should be more aware of this specific legislation as it is now part of the medical school curriculum. The Medical Society, through its President's Newsletter and through the Bulletin has recently been bringing legislative change to the attention of all Nova Scotia doctors. This sort of ongoing education of the physician is laudable and must continue.

However, even if 100% of physicians were aware of their legal responsibilities to report child abuse, some would not comply. Some physicians, especially in the surgical specialties, do not want to become involved in complex family matters which could ultimately lead to their spending lengthy amounts of time in family court hearings. The position of the family physician in a rural community is extremely difficult, as he realizes the possibility that such reporting might lead to the physician's alienation from his patients and perhaps the entire community. It is easier to

deal with the problem in larger urban settings, where family physicians can refer these complex family problems to hospitals which bring a team approach to the problem. The family physician thus can continue his doctor-patient relationship with the family of the abused child, and he can even act as an advocate for the parents, while the hospital team and reporting agencies try to formulate a plan to deal with the abused child and his family.

*Question: "Can he be sued if the information turns out to be mistaken?"*

	All Professionals	
Yes	256	36.4%
No	245	34.9%
Don't know	202	28.7%
	100.0%	

The results of this question were not submitted for statistical analysis due to the ambiguity of "mistaken" in the question.

Nevertheless, fear of countersuit by parents looms large in many professional minds. Section 19A (2) of the Child Welfare Act affords protection to all persons who report child abuse in good faith and without malicious intent.

*Question: "Do you think there should be a central province-wide registry to contain all suspected or proven cases of child abuse in Nova Scotia?"*

	Physicians' Responses		All Professionals	
Yes	113	78.5%	557	79.2%
No	23	16.0%	113	16.1%
Don't know	8	5.5%	30	4.3%
Won't answer	0	0.0%	1	0.1%
Other	0	0.0%	2	0.3%
	144	100.0%	703	100.0%

*Question: "Do you think such a registry would infringe upon a person's right of privacy?"*

	Physicians' Responses		All Professionals	
Yes	53	36.8%	207	29.4%
No	86	59.7%	473	67.3%
Don't know	4	2.8%	19	2.7%
Won't answer	1	0.7%	3	0.4%
Other	0	0.0%	1	0.1%
	144	100.0%	703	100.0%

These responses heavily favour the central registry concept which helps to protect the rights of children not to be abused or neglected even if it infringes on the rights of parents. The central registry need not be merely a computerized collection of child abuse statistics, but might represent a form of advocacy for children.



## RECOMMENDATIONS IMPORTANT TO PHYSICIANS

The report<sup>1</sup> contained 23 recommendations for various levels of governments and professional groups. The recommendations which are most pertinent to the practising physician are listed as follows:

### 1) Central Registry

There should be established, on a province-wide basis, a central registry to identify proven and suspected cases of child abuse and neglect. Such a registry should be developed in each province in Canada and there should be active interprovincial communication.

### 2) Elimination of corporal punishment in the schools

The survey has established that a majority of a random sample of a significant number of Nova Scotia professionals favor elimination of corporal punishment in the schools.

### 3) Preventive Services

- a) universal comprehensive family life education programs
- b) provision of adequate day care services for children and families based on need
- c) crisis counselling: the development of volunteer services such as "Parents Anonymous" and Help Line
- d) homemaker services
- e) universal family planning programs
- f) neighborhood community centres

### 4) The Team Approach to the Treatment of Battered and Abused Children in Nova Scotia

Many physicians indicated that an important method of dealing with the battered child is the development of a multidisciplinary team approach. The concept of regionalization of health services is one of the current approaches being actively considered in Nova Scotia. It would seem logical that every regional health centre should have a team of professionals which is prepared to conduct family case conferences to determine the diagnosis, rehabilitative potential, and need for court action in cases of child abuse and neglect. An initial step would be the appointment of a physician from each of the 12 provincial branch societies of the Medical Society of Nova Scotia, on a consulting basis to the staff of the nearest office of either the children's aid society or the Department of Public Welfare. It must be possible for 12 branch societies to find 12 physicians who are interested and dedicated to the well-being of children in their areas. This has been unsuccessful in the past. Physicians have been unwilling to come forth and assist social agencies in their communities for a number of reasons. They are fearful that a lot of their valuable time will be spent in conferences and family court hearings. They are concerned about a conflict of interest between themselves and the patients in their own practice and between themselves and other practicing physicians in their communities. There may be some grounds for these fears but the problems can be surmounted. Fear of loss of income can be readily overcome by payment of consulting fees on an hourly basis to consulting

physicians.

The ultimate goal of this team approach would be to have strong regional teams based in health centres to consider problems of child welfare within the families of the region. These teams would consist of the consultant physician who might well be a family doctor, a pediatrician or a psychiatrist, a hospital social worker, a social worker from the community (Children's Aid Society or Department of Public Welfare), a nutritionist, a public health nurse, and various other helping professionals who might be called in for particular problems (e.g. marriage counsellor, clergyman). Legal advice should be available to all members of the team, the family and the child. The team approach has been successful in places such as Denver, Colorado, and the Children's Hospital Medical Centre in Boston, Massachusetts. However such a regional team to deal with this difficult problem need not wait for the development of regional health care centres.

It is recommended that the Medical Society of Nova Scotia should be encouraged to find members in the various branch societies to become consultants to the child caring agencies within their branch regions. In addition, the societies and the Department of Social Services could develop a system of consulting fees for non-salaried professionals who are involved as members of the team. The functions of such a team must be primarily rehabilitative and definitely not punitive.

As such teams develop expertise, and promote innovations and rehabilitation, annual or semi-annual workshops can be held to upgrade the knowledge of teams in all regions of the province.

### 5) Case Finding and Prevention

It should be strongly recommended to all Nova Scotia physicians that public health nurses be used more frequently in following children who are suspected of having been abused or neglected but not proven to be. The nurse is a helping professional who visits all Nova Scotian babies in their homes at 4-8 weeks of age. Visiting by public health nurses is widely accepted by the Nova Scotian community. Such visits will be facilitated if the attending physician has prepared the family for the fact that he is working with the public health nurses and that he would like them to be involved in the ongoing assessment and care of a child who has been injured or who may be malnourished.

### 6) Need for Higher Index of Physician Suspicion

Since 9 of 35 battered children in the retrospective study<sup>1</sup> had sustained documented serious injuries prior to battering, physicians appear to have a low index of suspicion regarding child abuse. Physicians must be urged and educated to carefully investigate the history surrounding all serious injuries, burns, and scalds, in children under five years of age. If recurrent injuries or accidents occur in this age group, social investigation should be mandatory. □

*References on page 220.*



# Care and Feeding of the Foetus

## SOME SOCIAL IMPLICATIONS

Marty Dolin,\* M.S.W.,

Halifax, N.S.

It may seem somewhat strange that the Director of a Social Agency, a Social Worker by profession, should be concerned about pre-natal nutrition, testing for protein adequacy in the diets of pregnant women and related areas which would seem to be more in the realm of medical practitioners. My interest and concern was stimulated at an international conference on the Rights of Children, held in Montreal in May of 1973. At this meeting a Halifax doctor pointed out some of the severe societal ramifications of inadequate nutrition in pregnant women and suggested that the present methods of distributing funds through the Welfare system for specific low income individuals were inadequate.

After discussing this situation with this doctor I received a great deal of material on the subject. Much of the information was gained from a talk given at the Dalhousie Medical School by Dr. Richard Aubrey from the United States entitled "The Care and Feeding of the Foetus".

Aubrey pointed out that in the United States more than 6% of all pregnancies result in dead or damaged children. He stated that low birth weight in infancy is directly proportional to the risk of morbidity and mortality and that 60% of low birth weight neonates are poorly grown, not premature.

*"Low birth weight is well established as an antecedent of excess mortality in infants, and of mental retardation and other neurological disorders. The lower the birth weight, the greater is the perinatal death rate and the higher is the incidence of brain disorders and or mental retardation."*<sup>1</sup>

In clinical studies done by Dr. Aubrey and others, it appears that no one factor of either age, race, patient status (i.e. clinic versus private), sex of the neonate, pregnancy weight, weight gained during pregnancy, etc., could equally show the effect on birth weight as could that of nutrition.

Brewer<sup>2</sup>...states "The single and most important environmental factor which determines the outcome of human pregnancy is maternal-fetal nutrition". The essential ingredients in insuring adequate nutrition, according to Aubrey and others are protein and calories.

Beydoun<sup>3</sup> and others, have studied the utility of a specific index of a protein nutrition, the urea-nitrogen/total nitrogen (UN/TN ratio) as a test for nutritional adequacy related to intake. Their study shows that UN/TN ratio is a simple, reliable and relatively inexpensive index of nutritional adequacy accurate within a short time period.

\*Executive Director of the Halifax-Dartmouth Family Service Bureau.

In Aubrey's test with the "high-risk" population from the Pre-natal Care Centre, Department of Obstetrics and Gynaecology of the State University of New York Upstate Medical Centre, one third of the pregnant mothers studied using the UN/TN ratio had less than desirable results. Dr. Aubrey pointed out that nutritionists working with these patients, giving dietary advice on balanced diets and nutritional requirements, appeared to have little effect in changing the habits and improving the UN/TN ratio of these inner city patients. The indications for Dr. Aubrey and myself, seem to be that actual provision of food supplements plus dietary advice are more in line with what is required than just a mere provision of advice. Free advice is usually worth what it costs in the eyes of those receiving it.

At the Pre-natal Care Centre, Dr. Aubrey showed that where food supplements plus dietary advice were given tests for the UN/TN ratio showed that the ratio was raised and the neo-natal weight increased. Dr. Thomas Brewer of Richmond, California who has conducted a parallel project in pre-natal nutrition education, concludes "In those nations where food supplies are adequate, the application of modern nutrition science and human pre-natal care, can, in a short time, improve maternal and infant health dramatically".

Dr. Aubrey, in his lecture at Dalhousie, stated that experiments with rats indicate the possibility of a generational effect of pre-natal nutrition. In his studies indications seem to be that with inadequate pre-natal nutrition it takes two generations of proper nutrition to bring the third generation back to a normal risk curve. It also seems that where there are two consecutive generations of inadequately nourished rats, it takes four generations of proper nutrition to bring the risk level back to normal. If one can anthropomorphize these studies it would seem to be that if your patient had inadequate nourishment during her pre-natal period, with proper nutrition her grandchildren would achieve a normal risk level. A clinical psychologist friend of mine commented that one of the best ways of insuring maximal potential would be to chose your grandparents. Highly impractical, but indicative of the possible extreme societal ramifications of the problem.

A rather large study done at The Montreal Diet Dispensary<sup>4</sup> seems to validate a great deal of the research done in the United States.

*"Evidence is presented which suggests that nutrition intervention during pregnancy can have a significant influence on the subsequent growth and development of*



*the infant. The Montreal Diet Dispensary gave nutrition counselling and necessary food supplementation to 1,636 indigent public clinic patients of the Royal Victoria Hospital, between 1963 and 1971. During the service the average intake was increased by 531 calories and 32 grams of protein. The pre-natal mortality (14.9/M) and pre-maturity (7.6%) was similar to those of private patients and significantly lower than other public clinic patients. The mean birth weight (3276 grams) in the study group was the same as for the private patients."*

If, as it appears in Montreal, California, Up State New York and elsewhere that providing adequate nutrition, during the pre-natal period, can lower morbidity and mortality risk and that there is not only a direct perinatal effect, but a possibility of a generational effect then the societal implications are great.

We seem to be taking risks that are not only unnecessary but apparently unjustifiable. The continuing costs of maintaining a defective child throughout its lifetime run to over a \$100,000.00. The cost in Montreal of the Dietary Dispensary Service for each case, including the actual provision of food supplementation, is \$125.00, about one thousandth of the continuing costs for maintaining a defective child.

In all the helping professions there has been a great deal of talk about prevention, but most of the expense and effort has been put in the area of treatment because this seems to be where identifiable results are statistically analyzable. In lowering the risk of low birth weight infants and the attendant problems, there seems to be evidence that we can lessen the need for treatment and its enormous costs with some initial input of effort and dollars. For the disadvantaged, departments of welfare, municipal and provincial, provide a small monetary supplement in some areas (in Halifax \$6.00 per month) to increase the nutritional intake for pregnant women. Little is done to actually provide the required food supplementation or to give continuing counselling and dietary control from professional nutritionists. Although it is difficult to determine, it is a distinct probability that many of the disadvantaged clientele seen at Family Service Bureau, whose societal functioning and family life are disturbed, have problems resulting from limiting their potential in their pre-natal stage due to lack of professional intervention at that level. The monetary and human costs seems too great a price to pay for continuing to take risks with our patient/clients and their children and their children's children.

Steps should be taken forthwith within the maternity hospitals in Halifax, using nutritionists, nurses, social workers and doctors, and clinical researchers to repeat the program of the Montreal Diet Dispensary.

*"The recognition of the vital protective role of scientific nutrition in human reproduction must motivate physicians, public health workers and politicians... to take steps to improve maternal-fetal nutrition among women*

*in poverty and ignorance. This is a grave responsibility of medical science to the future generations of mankind..."*

The methods are available to us. It is our responsibility to insure that our "problem" clientele are not in our offices and clinics due to our own inaction during critical periods.

Particulars of the various study results elsewhere may be open to some question. The risk of our inactivity to validate these results is too high a societal price to pay. □

The Family Service Bureau with offices in Halifax and Dartmouth, is one of the last volunteer, non-sectarian, social agencies not dependent on government for income. The staff of Family Service Bureau is made up of professional social workers (M.S.W.'s) plus a community-program consultant with a Masters in Educational Psychology. The core program of the Family Service Bureau is absed around direct service delivery to the Family. Involvement in this program focuses on family therapy and counselling of couples around problems of marriage and other intra-familial relationships.

Referrals are accepted from all sources. Professional staff has discretion as to most appropriate location to see clients, at home or in the office. Service can be delivered with immediacy. Enquiries are Welcome.

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4. **Higgins, Agnes C.,** "Nutrition and the Outcome of Pregnancy", address at the IV International Congress of Endocrinology Symposium, Protein Malnutrition and Endocrine System, June 23, 1972, Wash., D.C.

*The Izaak Walton Killam Hospital for Children wishes to announce that because of an error the name of Dr. Henry Lau was omitted from professional listing in the 1973 Halifax Dartmouth telephone book*

**Dr. Henry Lau**

*has a practice of General Surgery  
The Izaak Walton Killam Hospital for Children  
Telephone: 424-6194*



# Do They Really Pay You to Play?

Elizabeth Crocker\*

Halifax, N.S.

Someone is playing *Scrabble* with a child.  
Someone is helping a child with a puzzle.  
Someone is taking 4 children on a tour of the hospital laundry.  
Someone is mixing paints for the children who are about to paint a mural of the sea.  
Someone is helping a group of children make Rice Krispie squares.  
Someone is attaching a punching bag to the ceiling.  
Someone is sitting with small children who are working with play-dough.  
... and someone walks by and says "Do they really pay you to play?"

Although the above scenes describe pleasurable activity, there may be values other than recreation behind the activities that are not readily apparent to the casual passer-by.

*Scrabble* develops spelling skills; puzzles develop hand-eye coordination and judgement; a tour of the laundry is an educational experience and broadens children's concepts of a hospital; a discussion about the sea and pollution has preceded the painting of the mural; cooking involves measuring — a mathematical skill; hitting a punching bag provides an outlet for pent-up feelings; play-dough often becomes "cookies like mummy makes."

\* \* \* \* \*

The purpose of the Child Life Department at the Izaak Walton Killam Hospital for Children is to foster the social, emotional, physical and intellectual growth of children in an unfamiliar setting — the hospital. To achieve this end, we provide emotional support and understanding for both patients and parents, recreational activities geared to the growth and development levels of individual children and an educational program for children who would otherwise fall seriously behind in their schoolwork.

Although the prime function of a hospital is to provide medical and nursing care, "total care" of a patient must be considered an essential service. Special facilities must be afforded to children in a hospital setting to deal with their emotional reactions to hospitalization and so that their normal growth and development as well as their educational progress may not suffer.

If one views a child as a developing individual, one must realize that this development is constant and does not stop

\*Director, Child Life, The Izaak Walton Killam Hospital for Children.

just because a child is hospitalized. If one presumes that a child has needs such as comfort, security, a desire to be accepted, wanted, loved and understood, it is also fair to presume that these needs do not disappear when a child is hospitalized. In fact, some children are hospitalized because of lack of fulfillment of these various needs.

Education is pursued while a child is hospitalized so that his school progress will not be inhibited by his hospital stay. That a child is able to keep up in his schoolwork can mean the difference of going ahead in a given year or "failing"; it means that a child does not have to struggle to catch up when he returns to school; it has the great psychological value of making a child feel that he must be getting better if it is important for him to keep his work up-to-date; and it is a thread of normalcy from the outside world.

Play is the natural activity for a child — in fact, his "work" — and a medium through which he learns and expresses a great deal. Even sick children can be very active, and the concept of a hospitalized child being passive and confined to bed is usually incorrect. The Child Life Department is equipped with toys and games, materials for arts and crafts and other basic equipment. Play activities take place in a playroom or at the bedside if a patient cannot come to the area. Because play is a natural and pleasant activity, a child can immerse himself and put aside painful treatment or uncomfortable situations. He may even alleviate his fears and anxieties through the medium of play by acting them out in a fanciful manner.

A negative hospital experience can have a potentially serious determining influence on a child's emotional development<sup>1</sup>. Conversely, a positive experience in which a child is encouraged to "reach out" in his play, education and social interaction can mean much faster rehabilitation and recuperation.

A few facts about the Child Life Department at the IWK Hospital for Children:

- We presently provide an integrated education/recreation program for all inpatients excluding the infants on the Neonatal Unit.
- The program runs five days a week, Monday to Friday, with a full staff from 8:30 a.m. - 4:30 p.m. On Saturdays one person coordinates activities in one central area during the day. We also have an evening program for our teenage patients five nights a week, Sunday to Thursday, from 5:00 p.m. - 9:00 p.m.
- The staff presently numbers nineteen people whose backgrounds range from on-the-job training to university training in education, recreation, or some other related field.



- To assist our program's operation we rely heavily on volunteers — up to eighty a week in the winter months.
- Many students affiliate with our program throughout the year. These students come from fields such as education, art, child care work, physical education, early childhood education, etc.
- The staff for the program are funded by the Hospital Insurance Commission, the Federal Government's L.I.P. grant, and other private sources.
- We have established liason with various community facilities such as the Nova Scotia Museum, the Halifax Children's Library, various theatrical groups and other local organizations.
- We are considered part of the treatment team and have complete access to all medical information regarding patients.

Our activities with children include the following: music, movies, story telling, field trips (in hospital and outside), talking, listening, cuddling, observing and reporting behaviour, arts and crafts, formal and informal teaching, games, imaginative play, parties, cooking, planting flowers, etc. Soon to be completed is our outdoor playground which will enable us to take many children outside to play, to feel grass, to breathe fresh air. The hospital playground is a major project of the Women's Auxiliary of this hospital. Apart from the Women's Auxiliary's contribution, financial help has come from the Province of Nova Scotia, Department of Recreation, the Halifax Protestant Infants' Foundation in the form of equipment and from the Olands Breweries 1971 Limited which has supported a group of eight young people who have been involved in the physical construction of the playground and who will be involved in supervising the activities of children on the playground when completed.

We are fortunate at I.W.K. to have a Child Life Program that is supported by the medical staff and the community at large. Our work is professional work and important to the well-being of hospitalized children.

A program designed to meet the needs of hospitalized children will benefit children in their ability to cope with the environment and to understand hospitalization in positive rather than negative terms. A well-staffed education/recreation therapy program for hospitalized children would mean fewer emotional problems resulting from hospitalization and could mean the difference between passing or failing a grade in school for children who must be hospitalized for a long time or recurrently admitted. Surely these benefits to children are benefits to the community at large and should not be denied.

Are you paying anyone to play at your hospital?

#### Reference

1. Prugh, D. G., et al: A Study of the Emotional Reactions of Children and Families to Hospitalization and Illness. *American Journal of Orthopsychiat.* 23:70, 1953.

## NOTICE OF MOTION

Be advised that it is the intention of the By-Laws Committee to present amendments to the By-Laws of The Medical Society of Nova Scotia on the occasion of the 9th Meeting of Council, November 8, 9, and 10, 1973 for approval. The amendments are as follows:

1. **Amendment.** Chapter V, SECTIONS, add new article "4 (h) Sections shall report to the Annual Meeting of Council."

**Comment.** The increasing involvement of Sections of the Society in all aspects of Medical Society business and the value of Sections' reports that have been submitted to Council in the past resulted in a resolution at 1972 Council endorsing the principle of the amendment.

2. **Amendment.** Chapter IV, BRANCHES delete Article 4 (x).

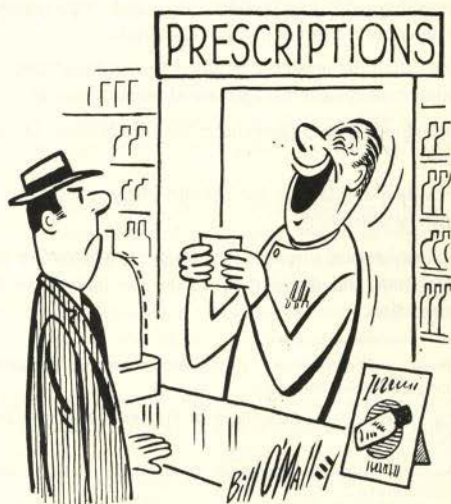
**Comment.** 1973 General Council considered a report which recommended dissolution of the Inverness-Victoria Medical Society. A resolution endorsing this proposal was passed by Council.

### 120TH ANNUAL MEETING

The Medical Society of Nova Scotia

Hotel Nova Scotian  
Halifax

November 8, 9, 10, 1973



# A Model for the Routine Evaluation of a Hospital Program

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Halifax, N.S.

The hospital separation records of the Nova Scotia Hospital Insurance Commission constitute an invaluable source of the data required by all those involved in the planning, monitoring and managing of hospital services. For practical use this vast amount of data must be reduced to a format which can be routinely produced in relatively finished form, easily interpreted and compact, yet containing the detail required by decision makers. If too compact and only presented in summary form, important differences and trends can be obscured and insufficient information will be available for intelligent and accurate interpretation. On the other hand, too much detail can be overwhelming and again presents problems in interpretation. Thus, the format of any model developed will of necessity be a compromise between the two extremes. Moreover, no single model will satisfy all the requirements of the various groups and individuals involved in the decision making process.

After reviewing existing models<sup>1,2</sup> and in consultation with Dr. W. B. C. Robertson and with the assistance of Miss Nancy Fisher of the Nova Scotia Hospital Insurance Commission, we developed the following model which we believe can be of assistance in:

1. Detecting and interpreting inter- and intra-regional differences and trends in hospital utilization.
2. Evaluating the impact of modifications in the allocation, administration and management of health resources.
3. Setting objectives, goals and criteria for hospital utilization.
4. Providing a data base for detailed analytical studies of hospital utilization.
5. Epidemiological investigations designed to determine the magnitude and distribution of specific diseases in the population.

## Methods

The annual Hospital separation records relating to adults and children (newborns were excluded) for 1967 and 1972 were first programmed to produce data pertaining only to Nova Scotians hospitalized in Nova Scotia. From these separations, for each year, twenty relatively high volume primary diagnoses were selected for detailed analysis. From the separations for which an operative (surgical) procedure was recorded twenty-one high volume procedures were also selected for analysis. The forty-one selected "tracer" conditions showing their codes according to 7th and 8th revision of the International Classification of Diseases (I.C.D.A.) were as follows:

ICDA 7th Rev. 1967-68	PRIMARY DIAGNOSIS DIAGNOSIS	ICDA 8th Rev. 1969-72
151	Malignant Neoplasms of Stomach	151
153	Malignant Neoplasms of Large Intestine except Rectum	153
154	Malignant Neoplasms of Rectum and Rectosigmoid Junction	154
170	Malignant Neoplasms of Breast	174
171	Malignant Neoplasms of Cervix Uteri	180
214	Uterine Fibroma	218
260	Diabetes Mellitus	250
385	Cataract	374
no equivalent code	Acute Myocardial Infarction	410
no equivalent code	Chronic Ischaemic Heart Disease	412
330-334	Cerebrovascular Disease	430-438
470-475	Acute Upper Respiratory Infections	460-465
500-502	Bronchitis	466 + 490 - 491
490-493	Pneumonias	480-486
241	Asthma	493
540-541	Ulcer of Stomach and Duodenum	531-533
600	Infections of Kidney	590
602	Calculus of Kidney and Ureter	592
650	Abortion	640-645
722-725	Arthritis	712-715

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ICDA 7th Rev. 1967-68	SURGICAL PROCEDURE	ICDA 8th Rev. 1969-72
211	Section of Nasal Spectrum	191
271-272	Tonsillectomy with adenoidectomy	211-212
	Tonsillectomy without adenoidectomy	
081-082	Thyroidectomy, Partial, Subtotal, Complete or Total	221-222
884	Excision and Ligation of Varicose Veins	244
400	Repair of Inguinal Hernia except recurrent	382
404	Repair of Ventral or Incisional Hernia	386
411	Exploratory Laparotomy or Celiotomy	391
451	Appendectomy	411
535	Cholecystectomy	435
442-443	Gastric Resection - Partial, Subtotal, Complete or Total	462-463
464-465	Resection of Colon - Partial, Subtotal, Complete or Total	475-476
492	Local Incision and Destruction of Lesion of Anus	512
493	Haemorrhoidectomy	513
626	Dilation of Urethra	575
661-663	Prostatectomy	581-583
381-383	Mastectomy	652-656
723-726	Hysterectomy	691-695
728	Dilation and Curettage of Uterus	703
732	Trachelectomy	704
744	Plastic Repair of Cystocele and/or Rectocele	714
780-784	Cesarian Section	770-779

For each of these conditions the following information was derived.

1. Number of separations
2. Separation rate per 10,000 population\*
3. Patient-days
4. Average stay
5. Patient-Day rate per 10,000 population\*
6. Average age
7. The proportion with a recorded secondary diagnosis
8. Pre-operative waiting period (operative condition only)

The province of Nova Scotia was divided into eight regions for the purpose of illustrating the use of the model (these do not correspond to the hospital regions currently in use). The separations for each of the 41 conditions were tabulated by region of residence and within each region of residence, for home region separations, Halifax-Dartmouth "referral"\*\*\* separations and other non-home region separations. For home region separations, the indices were shown for individual hospitals grouped according to size. All hospitals within each region with less than 50 beds were coded with a single letter, such as A, those with 50 to 99

\*The population counts are based on the latest figures released by Statistics Canada for the years 1967-1971. For 1972 the population counts are based on projections made by Dr. Andrew Harvey of the Institute of Public Affairs, Dalhousie University.

\*\*\*"referrals" include those referred by a physician and self-referred patients.

beds were coded with double letters and those 100 beds or more with three letters. Within each size grouping, the hospitals are also listed according to size from smallest to largest.

Provincial summary tables were produced for all adult and child separations with a primary diagnosis combined and for each of the forty-one selected conditions. Provincial summary tables were also produced for all surgical procedures combined. Additional tables were also produced but excluded certain groups of procedures which are not consistently coded by all hospitals. These included the group classified in the 7th revision of the I.C.D.A., which was used up to and including 1968, as "Certain Non-Surgical Procedures" (codes 90-99) and all "A" and "R" procedures in the Eighth revision of the I.C.D.A., which include procedures grouped under the following headings: Biopsy, Diagnostic Endoscopy, Diagnostic Radiography, Radiotherapy and Related Therapies, Physical Medicine and Rehabilitation and other Nonsurgical Procedures. In addition, Episiotomy (759) was excluded from the Eighth Revision (there is no separate code for this procedure in the 7th Revision). Thus, because the "surgical" exclusions from the two revisions of the I.C.D.A. differ somewhat in this latter set of tables any differences in the magnitude of the indices between 1968 and 1969 for "all" surgical conditions combined must be interpreted with caution. This caveat does not apply, of course, to the individual procedures within the surgical group.

The data from the above described tables were re-grouped to facilitate inter-regional comparisons into two summary tables indicating regional "demand" for care and regional "supply" of care. Regional "demand" for care refers to all separations arising out of the population of each region regardless of where they are hospitalized, while regional "supply" of care focuses on home region separations only, that is, the care provided within a region to its own residents.

Provincial summary tables were produced for all separations, all surgical procedures and each of the 41 conditions showing inter-regional patient flow patterns in terms of numbers of separations, the proportion separated from each region and average age. Similar tables were also produced showing the inter-regional flow tables in terms of patient-days.

Thus, for each of the 41 tracer conditions there are thirteen tables, eight of which show the above indices for each of the eight regions separately, one is a provincial summary table, two show the above data in a "demand" and "supply" format and two tables show the inter-regional flow patterns. All these are produced directly from computer print outs.

Ideally it would be desirable to show the above indices of utilization by age group and sex. However, the number of separations in Nova Scotia, even for high volume conditions, is relatively low and thus the numbers involved in age and sex specific groupings would, in most cases, be too small for meaningful interpretation.



During the course of developing the model consideration was given to including some measure of dispersion, such as a standard deviation, around measures of length of stay etc. We concluded, however, that this might lead to confusion and misinterpretation. For example, confusion could arise between inter-hospital variation from year to year and inter-hospital variation in a particular year. Also, measures of dispersion, such as the standard deviation tend to be regarded as setting upper and lower limits or the "normal range" which, in fact, may be quite different from the desirable optimal values which should be attained. Moreover, there are so few hospitals within the regions that the data for individual hospitals needs no summary measure of dispersion: the dispersion may be seen directly from the data. Of course, detailed analyses can easily be carried out for any particular comparison but this is probably not required on a routine basis.

## Results

A few examples of the resulting tables will be briefly described to illustrate the model.

Table I, shows the data relating to the surgical procedure, Cholecystectomy, for one of the eight regions, labelled II. The figures in the first column show the number of separations occurring within the region regardless of the patients' home address within Nova Scotia. The figures in all other columns relate only to separations of patients whose residence was within Region II. Thus, in the third column, of 254 Cholecystectomies performed on residents of Region II, 228 or 89.8% were carried out within Region II, 5.9% were referred to Halifax and 4.3% were performed in hospitals elsewhere in Nova Scotia. As expected, on the basis that more serious cases tend to be referred to the teaching hospital in the Halifax-Dartmouth area, referrals were older, had a relatively high proportion with a

secondary diagnosis and a high proportion with two days or more in hospital prior to surgery.

The 228 home region separations were distributed among the hospitals in Region II, coded A to AAA as shown. Differences between the figures in Column 1 and 3 are accounted for by patients referred into the region from elsewhere and they will not be large except for the region containing the Halifax referral hospitals.

Two hospitals in this region have less than 50 beds, A and B and of these A is the smallest.

Direct comparisons of the various indices among hospitals within the region can be made by reading across the columns. The columns entitled "Percent of Patients with this Pre-op Wait (Days)" show the percentage of patients in hospital one day, two days etc. prior to surgery. For example, 82.1% of the patients receiving this procedure in hospital AA had a pre-operative period of one day, whereas, in hospital B only 15.4% were in hospital one day prior to surgery.

Table II is an example, again relating to Cholecystectomy, of the inter-regional flow tables produced for each of the 41 selected conditions. Each column shows the regional distribution of hospital separations for residents of the specified regions, while each row gives the distribution of region of residence for all separations occurring within the specified regions.

The table shows for example, that of 254 residents of Region II, 228 or 90% were in-region separations, four were separated from hospitals in Region I, three from hospitals in Region III(a) and 18 in hospitals in Region III(b), where the Halifax referral hospitals are located, and so forth. It also shows that of all 1,120 separations from Region III(b) hospitals 993 were residents of this region, six came from Region I, 18 from Region II, 32 from Region III(a) and so on.

TABLE I  
REGION II  
SURGICAL  
ICDA CODE 435 ONLY

TOTAL SERVICE	REGION II	REGIONAL RESIDENTS SEPARATIONS NO. - %	SEPARATION RATE	TOTAL DAYS	AVE. STAY	PAT-DAY RATE	AVE. AGE	SECOND DIAG.	1971 DATA									
									PERCENT OF PATIENTS WITH THIS PRE-OP WAIT (DAYS)									
									1	2	3	4	7	12	19	29	30+	
246.	TOTAL	254.	100.0	32.5	3226.	12.70	41.3	47.6	22.8	66.5	14.6	4.3	2.0	4.3	4.7	2.4	1.2	0.0
	HOME REGION	228.	89.8	29.2	2758.	12.10	35.3	46.4	19.7	68.0	14.0	3.9	1.8	3.1	5.3	2.6	1.3	0.0
	HFX.-DART. HOSPITALS	15.	5.9	1.9	332.	22.13	42.	60.8	66.7	46.7	33.3	13.3	0.0	6.7	0.0	0.0	0.0	0.0
	OTHER HOSPITALS	11.	4.3	1.4	136.	12.36	17.	54.9	27.3	63.6	0.0	0.0	9.1	27.3	0.0	0.0	0.0	0.0
HOME REGION HOSPITALS																		
16.	HOSPITAL A	16.	6.3	2.0	153.	9.56	20.	41.9	25.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26.	HOSPITAL B	26.	10.2	3.3	273.	10.50	35.	44.7	11.5	15.4	76.9	0.0	0.0	0.0	3.8	3.8	0.0	0.0
28.	HOSPITAL AA	28.	11.0	3.6	395.	14.11	51.	44.6	35.7	82.1	3.6	3.6	0.0	3.6	0.0	3.6	3.8	0.0
53.	HOSPITAL BB	40.	15.7	5.1	494.	12.35	63.	44.3	7.5	70.0	10.0	7.5	5.0	0.0	2.5	5.0	1.0	0.0
57.	HOSPITAL CC	57.	22.4	7.3	785.	13.77	100.	49.4	21.1	61.4	8.8	5.3	3.5	5.3	10.5	1.8	3.5	0.0
66.	HOSPITAL AAA	61.	24.0	7.8	658.	10.79	84.	47.7	21.3	80.3	3.3	3.3	0.0	4.9	6.6	1.6	0.0	0.0



The data contained in Table I and similar data for all the regions were reconstituted in a Provincial "demand" format as shown in Table III. For example, there was a "demand" leading to 243 hospital separations for cholecystectomies arising out of the population of Region I for a separation rate 48.3 per 10,000. Of these 91.4% received the operation in their home region, 2.5% were referred to Halifax and 6.2% elsewhere. All together they consumed 3,386 days of care and had an average stay of 15.8 days for a patient-day rate of 762.4 per 10,000 population. Their average age was 48.7 years.

Regional differences in the indices of "demand" for hospital utilization can be directly observed by reading across the table and the final column shows the data for the province as a whole.

Table IV views the regional system from the point-of-view that each region is a resource, that is, a "supply". For example, 227 persons received cholecystectomies in Region I and, of these, 222 resided in Region I (The difference

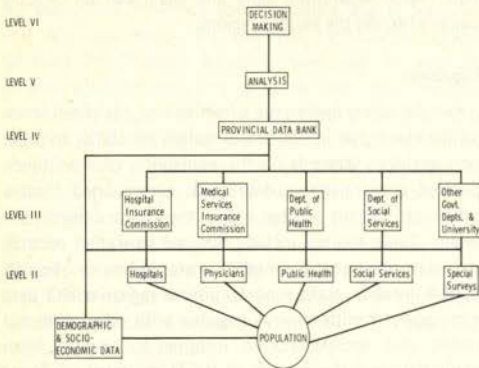
represents the number of patients referred into the region from elsewhere). The rest of the indices refer to these 222 home region separations only and again can be directly compared across the various regions.

## Discussion

For the policy maker, the administrator, the practitioner and the researcher in our health system the ability to make good decisions depends on the availability of a routinely up-dated comprehensive data bank accumulated from a variety of relevant sources within the health information system. These sources include hospital separation records, vital statistics records, medical care insurance records, hospital medical audit reports, disease registries and data from special health surveys together with relevant demographic and socio-economic information derived from census data and the records of the Department of Social Services. For the most part these are readily available but have not always been effectively utilized and, in fact, much of these data are gathering dust in storage. The reason for

TABLE II  
PATIENT FLOW  
ICDA CODE 435 ONLY (SURGICAL)  
REGION OF RESIDENCE

HOSPITAL REGION		1971 DATA								
		I	II	IIIA	IIIB	IV	V	VI	VII	N.S.
I	PATIENTS	222.	4.	1.	0.	0.	0.	0.	0.	227.
I	PERCENT	91.	2.	0.	0.	0.	0.	0.	0.	8.
I	AVERAGE AGE	49.	63.	39.	0.	0.	0.	0.	0.	49.
II	PATIENTS	12.	228.	5.	0.	1.	0.	0.	0.	246.
II	PERCENT	5.	90.	2.	0.	0.	0.	0.	0.	9.
II	AVERAGE AGE	38.	46.	40.	0.	58.	0.	0.	0.	46.
IIIA	PATIENTS	3.	3.	190.	0.	0.	0.	0.	0.	196.
IIIA	PERCENT	1.	1.	83.	0.	0.	0.	0.	0.	7.
IIIA	AVERAGE AGE	52.	46.	45.	0.	0.	0.	0.	0.	45.
IIIB	PATIENTS	6.	18.	32.	993.	37.	6.	13.	15.	1120.
IIIB	PERCENT	2.	7.	14.	99.	14.	4.	10.	2.	39.
IIIB	AVERAGE AGE	52.	59.	52.	45.	54.	52.	41.	48.	45.
IV	PATIENTS	0.	0.	0.	5.	229.	0.	0.	0.	234.
IV	PERCENT	0.	0.	0.	1.	85.	0.	0.	0.	8.
IV	AVERAGE AGE	0.	0.	0.	49.	49.	0.	0.	0.	49.
V	PATIENTS	0.	1.	0.	0.	2.	131.	2.	0.	136.
V	PERCENT	0.	0.	0.	0.	1.	94.	1.	0.	5.
V	AVERAGE AGE	0.	59.	0.	0.	44.	48.	48.	0.	48.
VI	PATIENTS	0.	0.	0.	0.	1.	2.	95.	7.	105.
VI	PERCENT	0.	0.	0.	0.	0.	1.	71.	1.	4.
VI	AVERAGE AGE	0.	0.	0.	0.	23.	48.	51.	51.	51.
VII	PATIENTS	0.	0.	0.	0.	0.	0.	24.	594.	618.
VII	PERCENT	0.	0.	0.	0.	0.	0.	16.	96.	21.
VII	AVERAGE AGE	0.	0.	0.	0.	0.	0.	46.	46.	46.
N.S.	PATIENTS	243.	254.	228.	998.	270.	139.	134.	616.	2882.
N.S.	PERCENT	100.	100.	100.	100.	100.	100.	100.	100.	100.
N.S.	AVERAGE AGE	49.	48.	46.	45.	50.	48.	49.	46.	47.



this may well be the arduous task of assembling, integrating, summarizing and analyzing the data and referencing it to appropriate population groups. All this, however, should precede the actual use of the data by the decision maker. The various steps or levels involved in this process are illustrated in Figure 1. With the cooperation of the agencies involved we are currently working at levels IV and V.

It would be naive to assume that the complex steps required in the formation of a usable data bank can be accomplished simply by the routine application of computer technology, even if the basic data were in machine readable form. The accumulation of the raw data in one location is only a first step. The next step involves system development; here the level of selection and summary of the data is dependent on the needs of the potential users. With the cooperation of computer systems analysts and health administrations, a feasible compromise has to be struck between the extremes of presenting an unintelligible, but complete data bank, and an easily understood, but oversimplified data bank. Once this has been worked out, the problem of developing a computerized data retrieval package can proceed.

The health system consists of several semi-autonomous constituents and decisions are made in each constituent on the basis of different kinds of information. One of these constituents is the hospital system and hospital separation data constitute one of the major components of the data bank required by decision makers in the health field. (We are currently accumulating data from the other components shown in the figure to eventually produce a provincial data bank, or health compendium). The results reported here describe a model which can routinely, on an annual basis, produce data in a form usable for monitoring the hospital system, setting objectives and criteria for medical audit

REGIONAL SUMMARY

TABLE III

1971 DATA

ALL SURGICAL SEPARATIONS FOR ICDA CODE 435 ONLY

INDEX	REGION							TOTAL	
	I	II	III(A)	III(B)	IV	V	VI		
- SEPARATIONS	243.0	254.0	228.0	998.0	270.0	139.0	134.0	616.0	2882.0
- SEPARATION RATE	48.3	32.5	44.4	35.9	31.6	30.2	29.3	40.0	36.5
REGIONAL DEMAND FOR CARE	91.4	89.8	83.3	99.5	84.8	94.2	70.9	96.4	93.1
- PERCENT HFX.-DART.	2.5	5.9	13.6	94.2	11.9	4.3	8.2	2.4	36.6
- PERCENT OTHER HOSP.	6.2	4.3	3.1	.5	3.3	1.4	20.9	1.1	2.9
- PATIENT DAYS	3836.0	3226.0	2777.0	13393.0	3904.0	2218.0	2357.0	10785.0	42496.0
- AVERAGE STAY	15.8	12.7	12.2	13.4	14.5	16.0	17.6	17.5	14.7
- PATIENT DAY RATE	762.4	412.6	540.5	481.9	457.2	481.1	514.8	700.8	538.6
- AVERAGE AGE	48.7	47.6	46.1	44.7	49.9	48.5	49.2	46.4	46.6

REGIONAL SUMMARY

TABLE IV

1971 DATA

ALL SURGICAL SEPARATIONS FOR ICDA CODE 435 ONLY

INDEX	REGION							TOTAL	
	I	II	III(A)	III(B)	IV	V	VI		
- ALL SEPARATIONS	227.0	246.0	196.0	1120.0	234.0	136.0	105.0	618.0	2882.0
**HOME REGION ONLY **									
- SEPARATIONS	222.0	228.0	190.0	993.0	229.0	131.0	95.0	594.0	2682.0
REGIONAL SUPPLY OF CARE	44.1	29.2	37.0	35.7	26.8	28.4	20.7	38.6	34.0
- PATIENT DAYS	3567.0	2758.0	2076.0	13312.0	3205.0	2038.0	1664.0	10350.0	38970.0
- AVERAGE STAY	16.1	12.1	10.9	13.4	14.0	15.6	17.5	17.4	14.5
- PATIENT DAY RATE	708.9	352.7	404.1	479.0	375.4	442.1	363.4	672.5	493.9
- AVERAGE AGE	49.1	46.4	45.3	44.7	49.4	48.3	51.1	46.3	46.4
- PERCENT WAITING ONE DAY PRE-OP.	27.5	68.0	60.0	36.5	50.2	67.9	28.4	26.6	40.3



reviews, developing predictive models of the hospital system and, for conditions regularly admitted to hospital, for epidemiological investigators. In addition, the data can identify areas which could be subjected to clinical research such as clinical trials designed to test the efficacy and efficiency of reducing hospital lengths of stay for specified conditions.<sup>3,4</sup>

A common element in all these uses is the provision for the establishment of *measurable operational objectives* which can be routinely evaluated and revised in response to the trends observed. Appropriately utilized, then, the model could lead to measurable changes in the effectiveness and efficiency of the hospital system.

We have recently had the opportunity to apply this model to a particular administrative question, namely, what effect on hospital utilization resulted from the introduction of diabetic day care clinics in selected hospitals in Nova Scotia? The results of this application are reported separately. □

#### Acknowledgment

We are indebted to the Nova Scotia Hospital Insurance Commission for their full cooperation in making available the data required for this study.

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## Physician Self - Assessment

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The following questions have been submitted by the Division of Continuing Medical Education, Dalhousie University, and are reprinted from the American College of Physicians **Medical Knowledge Self-Assessment Test No. 1** with the permission of Dr. E. C. Rosenow, Executive Vice-President.

It is our hope that stimulated by these small samplings of self-assessment presented you will wish to purchase a full programme.

**DIRECTIONS:** Each of the questions or incomplete statements below is followed by five suggested answers or completions. Select the ONE that is BEST in each case.

331. A 25-year-old pregnant woman who had pneumococcal pneumonia was treated with procaine penicillin G. On the third day of therapy, the patient developed urticaria.

Which of the following would be the most reasonable course of action in the management of this problem?

- (A) attempt to suppress urticaria with antihistamines or adrenal corticosteroids, continue penicillin therapy
- (B) substitute tetracycline for the penicillin
- (C) substitute erythromycin for the penicillin
- (D) substitute methicillin for the penicillin
- (E) substitute chloramphenicol for the penicillin

(Please turn to page 219 for answers)

# The Impact of Diabetic Day Care Centres on Hospital Utilization

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## Introduction

In our previous paper [Gordon, Smith and Weldon, 1973]<sup>1</sup> we outlined the development of a data-base that would serve as a resource to planners and managers of the Nova Scotia hospital system. Among the suggested uses of this data-base was mentioned

Evaluating the impact of modifications in the allocation, administration, and management of health resources.

In the following, we outline an example, in which we evaluate the impact of the introduction of diabetic day-care centres on hospital in-patient utilization.

In 1969, diabetic day-care clinics were organized and fully implemented in several hospitals in Nova Scotia. An obvious question of some importance is — What effect did this have on the quantity of in-patient utilization by diabetics? One way this question might have been answered would be an in-depth follow-up study during the period 1968-1970. Needless to say, such a study would be difficult and expensive. Another way would be a retrospective study of patients alive now, who had used the hospital facilities during 1967-1972. The linkage between years would be a major problem, and even if this could be surmounted, the biases introduced to such a study through mortality of potential subjects, incompleteness of records, etc., might vitiate the study, and again expense would be a factor. Moreover, the time lag between availability of the data and the report of the study would likely be of the order of a year. With these unsatisfactory alternatives, one is led to examine the time trends in system-level data, in the hope of inferring some general information about the response of the hospital system to the introduction of the diabetic clinics. For such studies the data base previously referred to provides the necessary information.

## Review of Recent Literature

The article by Miller and Goldstein (1972)<sup>2</sup> describes a very successful project to reduce in-patient hospital utilization by diabetics. They report improved care at reduced cost by providing a telephone answering service which directs patients to medical advice, a prescription

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service, an appointment with the out-patient department, or when necessary, to an immediate examination to decide whether admission to hospital is necessary. This simple device diverted many potential emergency department visitors and also avoided many unnecessary admissions. Eschen (1972)<sup>3</sup> has recorded his agreement with this approach. Other articles, for example, Hill (1970)<sup>4</sup> and Chance (1969)<sup>5</sup> have discussed the advantages of an out-patient programme for the effective education of new diabetics, but the impact on in-patient hospital utilization was not discussed.

With the exception of the Miller and Goldstein paper cited above, very little has been formally documented on the impact of specialized out-patient care for diabetics on their hospital utilization, at least during the period surveyed, 1966 to the present. In this paper we attempt to show that, given the data base referred to above, considerable information about the system response to the introduction of diabetic day-care centres can be extracted. The cost analysis of Miller and Goldstein (1972)<sup>2</sup> could then be applied, although we have not done this here for reasons which will become apparent from the following.

## Use of the Summary Tables

At present we have six years' data, 1967-72. To see whether the introduction of the clinics in 1969 had any effect on the in-patient patient-days, we first compared the trends in patient-day rates between regions with and without the diabetic clinics (Table I). If one scans the horizontal rows of this table, the conclusion one is led to is that the provincial hospital system as a whole showed no response, in terms of patient-day rates, to the introduction of the clinics, and that regions with the clinics had similar experience to the regions without clinics.

Closer examination of this phenomenon involves (1) the use of different measures of utilization than patient-day rates, and (2) the examination of individual hospitals with and without clinics.

### (1) Alternative measures of utilization

We first look at alternative measures of utilization. Table II gives the trends for all separations in terms of separation rates, and Table III presents the trends in terms of average length of stay. From Table II one can see that separation rates appear to increase slightly over 1967-72 (although this is not a very consistent trend), but that there is no evidence of this relating to an event in 1969, nor is there any



evidence that this was a response to the introduction of the clinics: regions "with" followed the same pattern as regions "without". Table III shows a fairly consistent trend in the reduction of the length-of-stay, but again there is no differential between regions "with" and regions "without" in this regard, nor is there any evidence to tie this reduction to the 1968-69 transitional period. Thus this approach appears to support the previous suggestion that the utilization of in-patient service by diabetics has shown no response to the introduction of the day-care clinics.

One might hypothesize that the anticipated reduction in in-patient care for diabetics was being offset by the increased number of patients referred to in-patient services by the clinics. That is, the utilization of in-patient services would remain constant while the average severity of cases receiving in-patient services increased. As a rough measure of this effect, we can use the percentage of in-patients with diabetes who also have other diagnoses. Presumably a diabetic with multiple diagnoses would be more likely to require in-patient care than a diabetic with no other diagnoses. Thus, a "percentage with other diagnoses" may

be used as a proxy for the level of care required for in-patient diabetics. The trends for 1967-72 are shown in Table IV. Again we find no differential between regions with and without clinics, and no response that relates to the 1968-69 transition period. This casts doubt on the above hypothesis.

## (2) Comparison of hospitals

In addition to using various measures of hospital utilization, we can make comparisons between more narrowly defined units than a region's total separations. For example, it would be reasonable to expect that the clinics might have a greater effect on home region separations than on all separations. However, the analysis of home region separations shows exactly the same trends as were revealed above in the analysis of all separations.

Another way to refine the contrast is to compare utilization measures for in-patient diabetics among certain hospitals of similar size. In particular, we may compare the utilization experience of three large hospitals without clinics from three regions without clinics, with that of six

TABLE I  
Patient-Day Rates†, 1967-72, ICD Code 250\*

Region	1967	1968	1969	1970	1971	1972
Regions I	39	30	33	32	33	36
Without II	36	44	35	34	29	30
Diabetic III(a)	36	33	37	33	36	47
Clinics IV	42	44	42	46	40	41
Regions V	46	59	48	67	55	49
With VI	69	59	74	44	48	40
Diabetic VII	56	57	52	52	60	48
Clinics III(b)	22	21	21	21	20	21

## Introduction of clinics

TABLE II  
Regional Separation Rates‡, 1967-72, ICD Code 250\*

Region	1967	1968	1969	1970	1971	1972
Regions I	2.2	2.4	2.3	2.5	2.1	2.6
Without II	2.4	2.7	2.7	2.4	2.0	2.1
Diabetic II(a)	1.9	2.2	2.4	2.3	2.8	2.9
Clinics IV	2.6	2.8	2.6	3.0	2.9	3.4
Regions V	2.5	3.3	3.2	3.7	3.3	3.4
With VI	3.8	3.4	3.8	3.2	3.5	3.0
Diabetic VII	3.2	3.4	3.4	3.2	3.3	3.5
Clinics III(b)	1.3	1.2	1.3	1.3	1.3	1.3

\*8th Revision, and 260 in 1967-68, in which Seventh Revision applied.

†Rates per 1,000 population.

large hospitals with clinics from four different regions. See Tables V, VI, VII and VIII.

Table V reveals a slight decrease in patient-day rates during 1967-72, although there is no evidence to tie this to 1969, and there is no differential between hospitals with and without clinics.

Table VI shows that separation rates were fairly constant in all hospitals during 1967-72.

Table VII shows that the length of stay decreased over 1969-72, although the data suggests this is unrelated to the 1968-69 introduction of clinics.

TABLE III  
Regional Average Stay, 1967-72, ICD Code 250\*

Region	1967	1968	1969	1970	1971	1972
Regions I	18.0	12.6	14.5	12.8	15.2	13.7
Without II	15.2	16.3	13.0	14.3	14.2	14.0
Diabetic III(a)	19.3	15.3	15.4	14.7	12.8	16.4
Clinics IV	16.1	15.5	16.6	15.6	13.8	12.3
Regions V	17.9	17.6	15.2	18.2	16.4	14.2
With VI	18.2	17.5	19.9	13.8	13.6	13.3
Diabetic VII	17.6	16.7	15.4	16.2	18.2	13.6
Clinics III(b)	16.8	17.3	18.6	16.0	15.2	17.1

TABLE IV  
Percentage With Other Diagnoses, 1967-72, ICD Code 250\*

Region	1967	1968	1969	1970	1971	1972
Regions I	67	72	71	68	77	64
Without II	54	61	63	62	52	59
Diabetic III(a)	66	64	47	50	58	56
Clinics IV	57	55	51	50	62	52
Regions V	64	50	58	56	60	67
With VI	53	64	62	52	69	64
Diabetic VII	60	59	61	62	63	63
Clinics III(b)	64	63	63	64	58	70

TABLE V  
Patient-Day Rates,† 1967-72, ICD Code 250\*

Hospital	1967	1968	1969	1970	1971	1972
Hospitals I AAA	31	22	20	19	23	20
Without II AAA	4	9	9	6	5	6
Diabetic Clinics IV BBB	13	14	14	14	9	12
Hospitals III(b) EEE	5	5	5	4	5	4
With V AAA	38	50	38	49	44	40
VI AAA	40	36	40	24	22	22
Diabetic VII BBB	12	10	8	9	8	9
VII CCC	6	8	9	4	6	7
Clinics VII DDD	7	5	6	7	8	5

\*8th Revision, and 260 in 1967-68, in which Seventh Revision applied.

†Rates per 1,000 population



**TABLE VI**  
**Separation Rates,† 1967-72, ICD Code 250\***

Hospital			1967	1968	1969	1970	1971	1972
Hospitals Without	I	AAA	1.5	1.6	1.2	1.4	1.3	1.4
	II	AAA	0.4	0.6	0.6	0.5	0.4	0.5
Diabetic Clinics	IV	BBB	0.7	0.8	0.7	0.8	0.7	0.8
Hospitals With	III(b)	EEE	0.3	0.3	0.3	0.3	0.3	0.3
	V	AAA	2.1	2.6	2.3	2.4	2.5	2.5
Diabetic Clinics	VI	AAA	1.9	1.9	1.9	1.8	1.8	1.4
	VII	BBB	0.5	0.4	0.5	0.4	0.4	0.6
Diabetic Clinics	VII	CCC	0.3	0.4	0.4	0.3	0.3	0.4
	VII	DDD	0.4	0.4	0.3	0.4	0.5	0.4

**TABLE VII**  
**Length of Stay, 1967-72, ICD Code 250\***

Hospital			1967	1968	1969	1970	1971	1972
Hospitals Without	I	AAA	21.3	13.6	17.8	13.4	17.3	14.0
	II	AAA	12.0	15.2	14.9	13.1	12.6	12.6
Diabetic Clinics	IV	BBB	18.4	16.4	19.5	16.5	13.0	14.4
Hospitals With	III(b)	EEE	15.0	17.9	15.0	15.6	15.3	14.2
	V	AAA	18.4	19.4	16.4	20.5	18.0	16.1
Diabetic Clinics	VI	AAA	21.1	18.9	21.7	13.1	12.1	15.0
	VII	BBB	24.4	24.9	17.7	24.9	19.3	14.4
Diabetic Clinics	VII	CCC	20.9	18.7	20.4	15.0	20.5	17.9
	VII	DDD	15.7	14.2	20.0	16.9	17.4	14.4

**TABLE VIII**  
**Percentage With Other Diagnoses, 1967-72, ICD Code 250\***

Hospital			1967	1968	1969	1970	1971	1972
Hospitals Without	I	AAA	69.0	78.7	78.9	68.1	81.8	67.1
	II	AAA	62.9	73.3	55.3	48.6	30.3	41.7
Diabetic Clinics	IV	BBB	56.8	64.7	68.8	42.8	51.6	63.4
Hospitals With	III(b)	EEE	54.7	65.3	63.6	72.1	60.4	78.8
	V	AAA	60.2	65.5	57.5	61.4	61.0	68.1
Diabetic Clinics	VI	AAA	46.2	56.2	55.5	53.7	64.6	64.7
	VII	BBB	65.3	73.4	70.4	75.9	78.4	75.8
Diabetic Clinics	VII	CCC	65.9	66.6	79.1	65.1	72.3	82.8
	VII	DDD	51.5	55.5	60.3	62.6	69.8	62.5

\*8th Revision, and 260 in 1967-69, in which Seventh Revision applied.

†Rates per 1,000 population.

Table VIII suggests that, for hospitals of this size, the percentage with other diagnoses increased about 20% in hospitals with clinics, while it decreased slightly in hospitals without clinics. This would suggest that hospitals introducing clinics were drawing the more complicated diabetic patients as in-patients away from hospitals without clinics. However, the changes in this measure occurred both before and after 1969, so that these changes are probably a result of factors other than the introduction of clinics per se.

### Conclusion

Neither major hospitals, nor the regional hospital systems, responded to the introduction of diabetic clinics in 1969 in any way perceptible through in-patient utilization rates for diabetics, as measured by patient-day rates, separation rates, length of stay, or percentage with other diagnoses, over the period 1967-72. This substantially answers the question we posed in the introduction: What effect did the introduction of diabetic clinics in 1969 have on the *quantity* of in-patient utilization by diabetics?

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A broader conclusion is also justified: the data-base described in our previous paper is able to reveal information of importance to managers of the health care delivery system.

As a final comment, we must stress that we have *not* attempted to evaluate whether the introduction of diabetic clinics has had a positive effect on the health status of diabetics. We have only shown that reduced in-patient utilization by diabetics has not resulted to date. □

### Acknowledgment

We are indebted to the Nova Scotia Hospital Insurance Commission for making the data available to carry out this study, and to Mr. A. P. Smith, Programmer-Analyst and Mrs. M. Harnish, Statistical Clerk, of the Department of Preventive Medicine, for their assistance.

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# Development of Secondary Referral Centres in Nova Scotia

## VIEWPOINT OF AN INTERNIST

William I. Morse, M.D.

*Yarmouth, N.S.*

Sixteen specialists listed by the Provincial Medical Board live in Yarmouth. The number was 11 when I moved here seven years ago. In recent years less than half the beds in Yarmouth Regional Hospital have been occupied by patients from Yarmouth Town and Municipality. These statistics suffice to indicate that Yarmouth has been a referral centre for some time and is developing further along these lines.

A Kidney Unit for hemodialysis was opened at Yarmouth Regional Hospital in 1968. The Unit is presently staffed by four physicians and three nurses; all have had short periods of training in the Victoria General Hospital Kidney Unit. A small Radio-isotope Laboratory was opened in 1968. Radio-iodine uptake and Schilling tests were offered. The isotope or nuclear medicine facilities are now being expanded to offer scanning of various body organs. A five bed Intensive Care Unit (ICU) was opened at Yarmouth Regional Hospital in July 1970. The medical staff serving this unit consists of four surgeons and four physicians experienced in handling cardiac arrhythmias and reading electrocardiograms. Once again the Coronary Care Unit (CCU) and ICU at the Victoria General Hospital assisted in the training of our physicians and our head nurse. Other new services include a Diabetic Day Clinic and Respiratory Technology. New surgical procedures are being added.

Developments in Sydney are no less remarkable. That city has recently established an ICU, CCU and Hemodialysis Unit. The CCU and Kidney Unit are under the direction of an internist and it is expected that additional internists will move to Sydney next year. The radiological services are being expanded. Radio-isotope facilities are proposed for 1974. Several other towns in the Province are developing special services. Some have CCU's (or ICU's with facilities to treat patients with myocardial infarction) but I do not know the extent to which my own criteria for an adequate CCU (see below) are fulfilled.

Halifax is obviously the major referral centre in this Province for many difficult diagnostic problems and highly specialized therapeutic services. Dalhousie Medical School and Halifax hospitals now occupy positions of prominence in medical teaching and practice in Canada.

The smaller population centres in the Province have until recently lagged behind somewhat in the race to keep

abreast of medical progress. They deserve encouragement and support. I welcome the new interest as illustrated above for Yarmouth and Sydney. For the purpose of this paper I have chosen to call such communities "Secondary Referral Centres".

The trend to further development of secondary referral centres is inevitable if a larger fraction of citizens are to enjoy the standard of care offered to those in Halifax and the surrounding area. How far should this trend be allowed to go? How many secondary referral centres should there be? I do not have precise answers to these questions.

In commenting on the recent Health Council Report, the Officers of the Medical Society expressed the belief that Nova Scotia could be administered as a single health care region.<sup>1</sup> Perhaps this is true at the administrative level. I am more interested in the answers to clinical questions, such as the following:

- (a) How many Hemodialysis Units should there be in the Province? Several authorities have suggested three — Halifax, Sydney and Yarmouth — and I agree. If this is the correct answer, Sydney and Yarmouth have been selected for special status — and I think they qualify.
- (b) How far should a patient smitten with acute myocardial infarction be expected to travel so he can receive adequate therapy which is only possible in a properly staffed CCU or ICU? Clearly 100 miles is too far. Twenty miles is better but this raises another important question (apart from the obvious financial one).

What constitutes an adequate CCU (or coronary care in an ICU)? I believe the following should be among the minimum requirements:

- (1) Care of the patient will be transferred to physicians experienced in the handling of cardiac arrhythmias and reading of electrocardiograms until the patient is released from the CCU — ICU. (This period varies from two to five days unless complications have developed.)
- (2) CCU — ICU staff will include three or more physicians with qualifications specified in (1) and residing within a few minutes drive from the hospital. They will rotate "on call" duties so that one is readily available for CCU emergency call at all times.

Numerical data current June 18, 1973.



- (3) One or more nurses trained in the interpretation of electrocardiograph monitor tracings and other CCU — ICU procedures should be on duty at all times.

If these are minimum requirements for an adequate CCU (or coronary care in an ICU) in 1973 it is clear that they can be provided by only a handful of hospitals in the Province. It also follows that internists can be used to greater advantage — at least for servicing CCU's — when several internists settle in one community (i.e. a secondary referral centre). To achieve maximum usefulness these same internists could arrange weekly clinics or office hours in surrounding towns.

I suspect the same type of reasoning could be applied to encourage several surgeons to settle in one community — the priority objective being 24 hour service of adequate quality. The isolated surgeon or internist can give 24 hour service only by denying himself adequate rest, recreation and opportunity for refresher courses. It is noteworthy that an increasing number of general practitioners are ensuring 24 hour patient coverage and protecting their own health by sharing night and weekend duties.

Returning to the question, obviously genuine secondary referral centres are not going to be 40 miles apart but I find it equally untenable to suggest that they should be 200 miles apart. Our experience in Yarmouth during the last few years suggests one or two further thoughts. As

secondary referral centres continue to develop, all physicians should be encouraged to adjust their patterns of practice so their patients will receive the most for the effort and dollars expended. I predict that specialists in secondary referral centres will, to an increasing extent, confine their services to their specialty and return patients to the referring family physician when that patient's problem is resolved to the point where the general practitioner can "take over".

Hopefully family doctors will use the specialists, special diagnostic and treatment services of the secondary referral centre wisely, bearing in mind that some problems can be solved equally well with local community resources whereas the solution for others may be found only in the major referral centre (Halifax). Intensive Care Units should be used for active treatment. Other hospital or nursing home settings are more suitable when the objective is alleviation of suffering. Some patients prefer to die at home. The judgement of the family physician — and his influence with relatives of the sick — may to a large extent determine whether or not the patient is managed in the most appropriate setting. □

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## VIEWPOINT OF A RURAL GENERAL PRACTITIONER

A. M. Clark, \* M.B., Ch.B., M.R.C.G.P.

*Pubnico, Yarmouth Co., N.S.*

Doctor Morse very kindly showed me the draft of the preceding article and I felt the views of a rural General Practitioner would possibly complement his remarks.

I am a single handed dispensing General Practitioner who firmly believes that the G.P. should be the Family Doctor and the first point of contact between the patient and any Specialist Service. My practice is situated twenty-six miles from Yarmouth Hospital, four miles from my nearest Medical neighbour and many of my patients travel up to and over twenty miles to reach my office.

Over the past seven years I have become more and more happy with the services offered by the Specialists concerned and who in my experience have never refused or delayed their help when requested and the percentage of my referrals directly to Halifax has become greatly reduced, although a fair number of patients reach there when investigations locally demonstrate conditions which cannot be treated locally such as neurosurgical problems, some

paediatric conditions and some malignancies which are sent to the Tumour Clinic. This after all is the function of the secondary referral centre.

Normally I visit the Hospital three days a week and apart from assisting the Surgical Specialists, this becomes a "supportive care" round in which I can maintain personal touch with the Specialists, can discuss the patient's present treatment, their disposal on leaving hospital and their future treatment, enlighten the Specialist with my personal knowledge of the patient (social, economic and mental status) and answer innumerable questions from the patients which they sometimes are too scared to ask the "Great Man" and then finally on my return to the office, deal with the relatives' enquiries. On the whole, I find this satisfying as I am too far in time and distance from the hospital to actively treat hospitalized patients safely and adequately.

What do I expect most from my referral centre? Firstly, courtesy and the understanding that a condition I see in my office may have changed for the better during the trip into Yarmouth but that I didn't feel justified in sending the

\*President of the Western Nova Scotia Branch, Medical Society of Nova Scotia.



patient home without a second opinion, when this might involve a twenty-five mile drive in the opposite direction to the hospital. Secondly, an adequate number of beds available in the hospital which is a *very* frequent problem and thirdly, and possibly most important, a quick full report on the patient, the findings and the treatment, preferably both on admission and discharge. The telephone is never far away for a brief report. Unfortunately this does not always happen — especially from the primary referral centre in Halifax from whence reports are occasionally very quick, usually up to two months late and too often are never received.

Finally, I expect my patient to be returned to my care and not kept under the protective wing of the Specialist acting as a glorified G.P. I agree there are some conditions which should be rechecked at regular intervals by the Specialist concerned but in the great majority of cases the G.P. can and should be the one to decide if a further consultation is required.

Here I must say that none of these criticisms apply to Doctor Morse whose halo can remain shining and un tarnished.

Finally, I would like to raise a point not directly concerned with the subject. If the patient has, for example,

a T.U.R. of the Prostate at which the Surgeon requires no assistant, I can claim Supportive Care but if the patient has a Medical problem, e.g. Diabetes, Myocardial Infarction, etc., I have to give as much or probably more supportive care but there is no provision whatsoever for any fee under present M.S.I. regulations.

In conclusion, as a rural G.P. I am happy and satisfied with my secondary referral centre and look forward to the increase of diagnostic facilities which will shortly become available, but it is essential, in my opinion, that the G.P., in town, or in a rural area, must never be excluded from the hospital team, although as I gaze into my crystal ball, or shaving mirror, I can foresee a fight developing over this within the next ten years. Remember, it happened in the United Kingdom after the onset of the National Health Service and now belatedly the authorities there have realized their error and are finding great difficulty in correcting the situation.

Let not the Ivory Towers of Halifax blind our Medical Politicians and Super Specialists to the problems, the amount of work and the highly skilled work done at the periphery. After all, it is nearly as easy to refer to Boston with our three ferries and air service as it is to Halifax with our partially made Routes 101 and 103! □

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Lay smiling at the skies,  
And when I'd call across to him  
He'd wave benign and wise.  
I thought him quiet and aloof,  
Pleasant but hard to know,  
So I worked on with well feigned joy  
To make my garden grow.  
I thought about the harvest time  
When we'd receive our own,  
The sweet reward that all expect,  
Who reap where they have sown.  
But now I taste the bitter woes  
To which us squares are born —  
The blight has my potatoes  
And the worms are in the corn.  
The drought has shrivelled up the peas,  
The rust has got the beans,  
Club root destroys the turnips  
And the slugs eat up the greens.  
Next year, should you look thru the fence,  
A sight you'll surely see —  
That smiling wise guy lying there,  
It won't be him, but me!

J. W. Reid, M.D.



# Nuclear Medicine in Nova Scotia

J. A. Aquino,\* M.D., F.R.C.P.(C)

Halifax, N.S.

The clinical use of radioisotopes in the Province of Nova Scotia started in 1956. These procedures are carried out mainly in the Departments of Radiotherapy at the Victoria General Hospital as well as the Halifax Infirmary which was started in 1964. A small unit is operating in Yarmouth Regional Hospital under the direction of Dr. W. I. Morse. Another diagnostic unit has recently been established at Camp Hill Hospital. The first paper written from this area was published in *The Nova Scotia Medical Bulletin* in July, 1957, covering the use of Radioiodine in the diagnosis of thyroid disorders.

The production of artificial radioactive elements just prior to World War II was quickly followed by attempts to apply them clinically. The quantities were limited and consequently the cost was higher.

Soon after the conclusion of World War II, nuclear reactors became available for peaceful use. In 1964, artificial isotopes were produced on a commercial basis. The medical use first investigated was the use of radioiodine in the treatment of thyroid conditions, mostly hyperthyroidism, and radiophosphorus for the treatment of leukemia. Since that time, many more isotopes are being produced and more are now being used clinically. It is of interest that during the development of the Technetium generator, one of the investigators was Dr. R. M. Cunningham; Dr. J. F. Filbee was also involved in the primary investigation of the Indium-Tin generator. Lately, I have been interested in a rare earth radionuclide called Ytterbium-169 which is being evaluated for brain scanning as well as kidney studies. It is of further interest that Canada was the first to produce Cobalt-60 sources for radiation therapy and is probably the biggest supplier of the same all over the world. The first unit was installed in Saskatoon in 1951. Nuclear Medicine procedures are readily available in Nova Scotia and all services are insured under the Nova Scotia Hospital Insurance Act. The following are the procedures commonly carried out in the daily practice of Nuclear Medicine:

## THERAPY

Inasmuch as radioisotopes in medicine was first used in the treatment of thyroid conditions as well as leukemia, this practice is still the same. What probably is taken for granted is the Cobalt-60 machine that we are currently using for the treatment of malignant diseases. It is an isotope and rightfully belongs to Nuclear Medicine.

**Cesium-137** — this is another isotope that is also used similar to Cobalt-60. They are both used in teletherapy but may be used in interstitial or intracavitary applications.

**Radioiodine** — this is commonly used nowadays in the treatment of hyperthyroidism, intractable anginas and malignancies of the thyroid particularly those with metastases.

**Radiophosphorus** — this is most useful in the treatment of multiple osseous metastases of the breast, prostatic malignancies where there is severe pain and occasionally in the treatment of leukemias and polycythemia rubra vera. In the colloid form, it is used for the control of malignant effusions.

**Radiogold** — just as radiophosphorus, can be used for the control of malignant effusions when used in its colloid form. As gold seeds, they are used for interstitial treatment of malignancies in the skin, oral cavity and bladder.

## DIAGNOSIS

Historically, the use of radionuclides in the diagnosis probably goes back mostly to the use of radioiodine. This is mainly related to thyroid disorders. This has gradually crept up to other systems such as the brain, liver and blood. An attempt therefore is made to outline the different uses of radioisotopes in relation to the different systems:

### I. Endocrine (Thyroid) — Common tests are

- (a) Thyroid uptake — commonly separates the hypo-eu-hyper thyroid states.
- (b) Thyroid Stimulation Test — when the uptake is in the hypothyroid range, the test is repeated following an injection of 10 units of TSH. It is expected that the uptake will double following such stimulation.
- (c) Thyroid Suppression Test — when the uptake is in the high normal and one wishes to separate the true hyperthyroid from the euthyroid patient, it is repeated with suppression. The medication used here is Cytomel 25 micrograms t.i.d. for five days with the uptake being done on the fourth day.
- (d) Thyroid Scan — although it is mainly aimed at the demonstration of 'hot' or 'cold' nodules, the general distribution of the isotope in the gland is also studied.

### II. CNS

- (a) Brain — for the detection of:
  1. tumours
  2. cerebrovascular accidents

### (b) CSF — hydrocephalus

### III. G-U System — Kidneys

- (a) Renogram — for the study of the individual kidney function.

\*Department of Radiotherapy and Nuclear Medicine, Victoria General Hospital.



(b) Renal scan — for the study of parenchymal structure.

1. Mercury scans — cyst vs tumours
2. Technetium Iron Complex Scans — better delineation and demonstration of space occupying lesions. Able to differentiate tumours from cysts.

#### IV. GI tract

(a) Liver Scan — demonstration of the size and state of the liver. Metastatic lesions, for instance will be better demonstrated as filling defects. Cirrhosis has a definite pattern of distribution. Follow-up of recent injury or surgical operation involving the liver.

(b) Blood loss — this is done with the use of Chromium-51 labeled RBC. The source of the blood loss may be localized with the 'String Test'. The amount of blood loss can also be determined by examination of the stool.

(c) Pancreas scan — mainly for determination of tumours although it is able to show inflammatory conditions as well.

(d) Fat absorption studies — using radioiodinated Triolein and Oleic acid for the differentiation of malabsorption from pancreatic disorders.

V. Pulmonary System — this is mainly for the detection of pulmonary embolism. The x-rays are generally negative and therefore other tests must be relied on. The injection of macro-aggregated albumin gives us good visualization of the distribution of the radioactive material. The sites affected by emboli are seen as lack of perfusion. This may be single or multiple.

(a) It can also be used to assist in the pre-operative evaluation of lung tumours. There are times when the lesion is very small as seen in the x-rays but appears to have massive involvement in this study, suggesting inoperability.

(b) Emphysema and bronchiectasis can have irregular perfusion showing the involvement which may be more extensive than those seen in the ordinary chest x-rays.

#### VI. Hematologic and Lymphatic System —

(a) Blood volume studies:

1. Red Cell mass with the use of Chromium-51.
2. Plasma volume using RHISA.

(b) Red Cell survival studies.

(c) Sequestration studies.

(d) Spleen scans for size and differential diagnosis of left upper quadrant masses.

1. Presence of spleen especially in children with congenital heart diseases.
2. Accessory spleens.
3. Spleen tumours, especially in the lymphomata.
4. Splenic infarcts.
5. Schilling test — for pernicious anemia.

6. Lymphangiograms with radioisotopes of gold or ethiodol I-131.

VII. Osseous system — mainly for the detection of metastatic lesions in the vertebrae. Most have now had the experience of seeing metastatic lesions in the vertebrae long before they are demonstrated in plain x-rays.

#### VIII. Special Senses —

(a) Detection of malignant melanoma in the eye using P-32.

IX. Miscellaneous group —

(a) P-32 in the differentiation of malignant melanomas from nevi.

(b) P-32 excretion when considering the treatment of malignant secondary lesions in the bone which are extensive.

(c) Gastric emptying time etc.

X. Blood flow studies — these are similar to the angiograms but do not have the same detail. It, however, is used for screening purposes. Better delineation can be obtained later with the regular angiograms if they turn out to be abnormal.

(a) Superior vena cavogram — for superior vena caval obstruction secondary to neoplasm.

(b) Bilateral carotid blood flow in cases of cardiovascular abnormalities such as stenosis or A-V malformation and even in subdural hematomas and tumours.

(c) Thrombophlebitis — detection of sites by using macro-aggregates of albumin which is radioiodinated or tagged with Technetium-99 m. Some work is being done using radioiodinated fibrinogen.

(d) Placental localization —

1. Placenta praevia — the dose to the fetus and mother are negligible when compared to X-ray procedure.

2. RH problems — intrauterine transfusion.

(e) Cardiac blood pool — differentiation between pericardial effusion and cardiomegaly.

The foregoing is a brief resumé of the clinical uses of Nuclear Medicine. As the specialty is young and continues to develop, we expect to see more procedures in the future. Some of these are now in the research stage almost ready for clinical use. □

Recent Canadian graduate, at present in dermatology clinic, seeks locum tenens 1-6 months, in general practice.

Dr. M. Bryson Rogers  
24 Lübeck  
Roekstr. 6  
W. Germany.



# **Diet and Diseases of the Gastrointestinal Tract**

C. Noel Williams,\* F.R.C.P.(C)

Halifax, N.S.

## **Peptic Ulcer Disease**

Controversy exists as to the correct foodstuffs to give patients with ulcer disease. It is, however, generally accepted that no specific diet will accelerate or retard the rate of ulcer healing. Bed rest and not smoking cigarettes will accelerate the healing rate of duodenal ulcers; these factors plus carbenoxalone sodium will do the same for benign gastric ulcers. The diet is modified to give symptomatic relief. It is only necessary to inform the patient to omit the specific foodstuffs that have precipitated symptoms. These vary from patient to patient but usually include spicy and fried food, strong tea, coffee and alcohol.

## **Gallstone Disease**

No specific dietary measures are necessary for pigment stones. An increased incidence of cholesterol gallstones has been recently reported in male patients ingesting a serum-cholesterol lowering diet. This diet was low in saturated fat, high in unsaturated fat, low in cholesterol and high in plant sterol. No specific diet has been shown to be the treatment of choice for patients with biliary colic, secondary to cholesterol gallstones. The time honored low fat diet is widely prescribed although amino acids liberate endogenous cholecystokinin just as readily as fatty acids. Rationally a high carbohydrate, low fat and low protein diet would be ideal; however, the treatment of choice for cholesterol gallstones remains elective cholecystectomy.

## **Inflammatory Bowel Disease**

In any state in which there is active inflammation, such as occurs in ulcerative colitis, Crohn's disease and diverticulitis, the dietary recommendation is low in residue and high in protein with vitamins and iron therapy as necessary. When the inflammatory changes are no longer present during ulcerative colitis, the dietary fibre content is increased to normal.

## **Diverticular Disease of the Colon**

The basic abnormality in diverticular disease is incoordinated motor activity. Formerly, old age, obesity, constipation and straining at stool were thought to be

prominent aetiological agents. However, this is no longer thought to be so. The major site of this disorder is the sigmoid colon, the incidence increasing with age, rarely occurring below 40 years. The modern concepts of this disorder were formulated by Painter. He performed a series of experiments recording the pressures generated in the sigmoid colon and was able to show that the normal pressure is 10mm Hg. Much higher pressures were found in segments with diverticuli than in adjacent segments in patients with diverticulosis. These abnormal pressures ranged up to 90mm Hg and were increased by eating, emotion, Morphine, and Prostigmine, which inhibits choline esterase and enhances parasympathetic activity. The pressures were decreased by Propantheline and Demerol. In about one-third of patients with pre-diverticular disease, muscle thickening is found in the sigmoid colon, affecting the circular layer. The disease is virtually unknown in Africa, where high residue diets are common (Bantus have 6-8 bowel movements per day mainly due to eating large quantities of bananas.) but is very common in the Western "civilized" countries. Africans having left their own country and living for years in America develop diverticulosis, just the same as native Americans. Experimentally, diverticuli can be consistently reproduced in rats fed a low residue diet and abolished by changing the diet to high residue. Painter thinks the abnormality is generated by a long continued low residue diet so that there is minimal bulk for propulsive activity. Patients placed on high residue diets lose their diverticuli and have reduced colonic pressures.

Consequently, the recommended treatment for pre-diverticular disease and diverticulosis without significant inflammatory change is predominantly dietary with a high residue content mainly of fresh fruit (especially bananas), cereals, and vegetables with brown bread replacing highly refined white bread. It may be necessary to use bulk laxatives, such as Metamucil, with occasionally Sennakot or Dulcolax, until the dietary effects come to the fore. Painful diverticular disease may require Reilly's myotomy, analogous to Ramstedt's operation for hypertrophy of the pyloric sphincter. When potent analgesia is required Demerol is the drug of choice, for Morphine generates tremendous segmental pressure which may result in perforation. □

\*Assistant Professor of Medicine, Dalhousie University.

References see page 184.



# History of Medicine in Prince Edward Island

R. G. Lea, M.D.

*Charlottetown, P.E.I.*

Throughout the 250 year history of this Island, first as a French colony, later as an English colony, and since 1873, a province in Canada, Prince Edward Island has enjoyed a standard of medical care that corresponds favorably with that enjoyed elsewhere in comparable times and social conditions. Medical facilities, and medical services available to the citizens of the Island have slowly evolved with the times, and with advances in medical knowledge and practice, from the time of French occupation to reach the high level of medical services now available in the province. It is perhaps fitting in this, our centennial year, to look back and to follow some aspects of the evolution of the practice of medicine in Prince Edward Island through the past 250 years.

The earliest medical practitioners in Prince Edward Island were noted in the accounts of the French occupation of the Island. A Dr. Dominique Duclos was stationed at Fort LaJoie in 1720 with the French forces, and later moved to, and practiced in, St. Peters, his place being taken at Fort LaJoie by Sieur Descants. Thereafter there is no information about any individual doctor, though mention is encountered of people with some medical training being with the French forces at Fort LaJoie.

After the arrival of British settlers we first hear of the presence of a doctor in Chappell's diary and his account of the great storm of the early 1770's. He mentions that among the rescuers who ventured out from New London Harbour to offer help was a Dr. Cullshaw. Sometime later Dr. Fitzroy, a member of the British Garrison, was noted to be providing medical services to the civilian population as well as to the army personnel.

With the arrival of settlers from the British Isles in increasing numbers during the late 1700's and early 1800's doctors appeared in increasing numbers, and in widely separated parts of the province. Dr. Roderick MacDonald arrived with the first ship load of settlers in the Tracadie, Scotchfort area, and Dr. McAulay accompanied the Selkirk settlers who arrived in the Belfast area in 1803. Other doctors who arrived about this time included Dr. Alexander Gordon, Dr. Benjamin St. Croix and Dr. Hobkirk in Charlottetown, Dr. John Jardine in Morell, Dr. Robert Potts in Tryon, Dr. J. H. Conroy in North Wiltshire, and Dr. Kaye in Georgetown. In 1821 Dr. John Mackieson arrived from Scotland and started a practice in Charlottetown which he carried on until his death in 1885 at the age of 90. Dr. Mackieson is of particular interest to us as his life and practice encompassed the whole span of time during which

Charlottetown grew from being a community of less than 2,000 to that of being a town of over 10,000. Having started his practice in the early pioneer era, he saw the practice of medicine emerge from the pioneer stage into the modern era and he lived to see the establishment of two general hospitals. Dr. Mackieson's greatest interest and value to us today lies in the fact that in 1826 he began keeping records of his cases, and these have survived and provide the most valuable source of information concerning the practice of medicine during this entire period that is available today.

As the population increased and as small communities appeared all over the Island, the number of Medical practitioners increased rapidly, particularly during the mid part of the century. By the 1860's the medical population of the Island reached its greatest peak, and medical services were readily available to many small communities from one end of the Island to the other. It is of interest to note the relationship of the establishment of Medical practices, with the state and condition of the roads. When roads were few and poorly maintained, doctors remained in many small communities near the homes of their patients, but as travelling conditions improved, and it became possible for both patients and doctors to travel greater distances with greater ease, the trend towards settlement of Medical practices in fewer and larger communities gradually evolved. This has resulted in the fact that while there are now almost as many doctors in the province as there were a hundred years ago, many small villages which once had resident doctors no longer do so.

During the late years of the 19th Century the caliber of medical practice improved immeasurably with the arrival of many outstanding physicians. During the earlier years of the century most physicians practicing in the provinces had obtained their training in the British Isles, but during the later part of the century more and more of the doctors who became established were graduates of Canadian and American schools, and many of them were native born men who had returned following their training, and who, by bringing in fresh ideas and new knowledge greatly improved the standard of Medical care available.

The study of Dr. Mackieson's clinical records and of records available from other sources, indicate that for many years no great change or improvement had occurred in the method of practice or in the management of disease. Vigorous purging, blood-letting and the application of plasters were the main forms of Therapy. However, as



medical science advanced in the major centers and new doctors arrived fresh from these areas, new measures and procedures were adopted and the old methods abandoned. Leadership in the profession during the latter part of the 19th century and early years of the present century, was given by this remarkable group of physicians who were active both in their profession and in the public life of the province. It is to the stimulus given by this group of men that much of the present high standard of the practice of medicine in the province owes its origin.

In 1855, the Prince Edward Island Medical Association was formed, shortly after the formation of a similar association in Nova Scotia, this being the first such association in the British North American Colonies. Its charter terms read "Persons who hold a medical degree or surgical diploma from any British University or College or from any Glasgow Faculty, or from any University or College in the British Colonies are considered eligible for enrollment in this Association."

Quarterly meetings were held on the first Wednesday of January-April and July and the Annual Meeting on the last Wednesday of October. Dr. Mackieson in his clinical records and personal diary mentions attending Association meetings on several occasions.

In the Parliamentary Reporter Monday, March 3, 1856 House of Assembly, the following is recorded. "Petition received and read by H. Haviland from John Mackieson, chairman of the PEI Medical Association, praying for an enactment to place the Medical profession in a position to suppress ignorant pretenders to Medical knowledge." In his diary of August 1, 1858, Dr. Mackieson records "Medical Act passed" and on September 16, 1858 "Medical Act is published in the *Lancet* - August 14, 1858."

By the Medical Act of 1858 only graduates of medical schools of Great Britain and Ireland, graduates of Canadian medical schools and of certain named schools in United States were permitted to practice. Provision was made for the appointment of a board of examiners by the Lieutenant Governor-in-Council. This act was repealed in 1878 and a new act, being more specific in its terms was introduced. This was amended in 1890 and remained in effect until its repeal in 1952 when the present Act was introduced.

The Medical Association formed in 1855 has remained in being, and is now known as the P.E.I. Medical Society - a Division of the Canadian Medical Association and throughout its long life time has remained the voice and agent of the Medical profession in the Province. The Board of Examiners mentioned in the Act has evolved into the present Medical Council of Prince Edward Island and retains its authority concerning licensure, professional discipline and kindred functions, though it, along with similar bodies in the other provinces gave over its powers of examining candidates to the Medical Council of Canada when that body was formed in 1917. Members of the medical profession of P.E.I. have been very active in affairs of both the Canadian Medical Association and the Medical Council of Canada, and on several occasions local doctors have been Presidents of both these national bodies.

Of major importance in the growth of medical services during this period was the development of the hospitals. The first hospital to be erected in the province was the Charlottetown Hospital which was opened on September the 19th, 1879. The impetus in starting this project lay with Bishop Sullivan who invited the Grey nuns in Quebec to open and staff such an institution. The first patient to be admitted was one James Flynn, an Irish peddler who was admitted on the 17th of October, 1879 with a diagnosis of laceration of the leg and who remained in hospital until 26th of April of the following year. Among the valuable items of equipment in this hospital on its opening was a Lister spray which had recently been developed to aid in the control of infections. The original building was occupied until 1891 when the hospital moved to a new building on a site donated by Bishop MacDonald. This building was badly damaged by fire in 1921 but was rebuilt and reoccupied about 9 months later. During this period the hospital was conducted in the Government House. In 1925 a new building was erected under the direction of Bishop O'Leary with additions and renovations including a major rebuilding program in 1950 and with subsequent additions has continued in operation at the same site.

The Prince Edward Island Hospital had its origin at Public meetings held on the 8th and 15th of March 1883 at which were present - Dr. Richard Johnson, Mr. Burwash, Mr. MacLellan, W. E. Dawson, H. I. Cundle and Dr. Fitzgerald. These meetings were held "For the purpose of establishing a hospital in this city upon a non-sectarian basis and for the benefit of the whole province." As result of this initial step sufficient money was raised to purchase the Hazard property on Longworth Avenue. This building had a capacity of 12 beds, and with an additional wing was occupied until 1898 when a new building was erected on Kensington Road. In 1930 a new hospital was built in Victoria Park on Brighton Road, to which extensive additions were made in 1946 and 1957.

The Prince County Hospital in Summerside was opened in 1912 in a building that had been erected as a Hotel in 1870 and was continued on this site until a new structure was erected in 1951. The present building was erected and occupied in 1970. Dr. Alexander MacNeill was the first chief of staff of the Prince County Hospital.

The Medical staff at the Charlottetown Hospital at its opening consisted of Dr. Hobkirk as chairman, Dr. Peter Conroy as secretary, Dr. MacLeod, Dr. Taylor, Dr. Jenkins, Dr. Beer and Dr. Canning as members. The Medical staff of the Prince Edward Island Hospital consisted of Drs. Hobkirk, Johnson, Beer, Dawson, and Warburton. Drs. Bagnall and Roberts were appointed surgeon dentists and Dr. G. J. Leeming was appointed analyst and Microscopist. This appointment of Dr. Leeming's is of great significance and indicates the progressive development of good medical practice in the province and an awareness of the important developments in medicine taking place throughout the country. During the first year of operation the Prince Edward Island Hospital had 56 patients and by the third year this had increased to 63. During the year 1887, 48



operations were performed. It is not known in what year the first Appendectomy was performed in the province but it was known to have been done by Dr. Conroy probably sometime prior to 1890. The P.E.I. Hospital reports one Appendectomy in 1892.

From this point onward the practice of surgery developed rapidly both in the nature of the procedures and in frequency, until by the early years of this century the practice of referring to Out-of-Province centers cases of a major nature gradually declined. Gradual improvements extended to the practice of medicine in all its branches in the local hospitals. During the early part of the present century medicine progressed rapidly as the Hospital increased in efficiency, and the doctors who composed their staffs became more highly trained and more efficient in their methods. The age of specialization had arrived and was soon manifested in the province, with specialists in all but a very few of the major fields being locally available.

Along with the development of three major hospitals, hospital care spread to several of the smaller centers during this period with the erection of hospitals in Alberton, Tyne Valley, Souris, and Montague and O'Leary. During this period the three major hospitals continued to upgrade their services and facilities. X-ray departments both for diagnostic and therapeutic purposes became available in all of the hospitals soon after its introduction into other Canadian centers. Laboratory services which had now become of major importance as new scientific developments were applied to clinical medicine were likewise available at an early date.

The importance of health as a matter of public concern had long been recognized. As early as 1851 health officers had been appointed by government and from this early step there was a gradual increase in concern for public health that culminated in 1931 when the Department of Health was established as a ministry of government with Dr. W. J. P. MacMillan as the first Minister of Health. Prior to this, steps to deal with Tuberculosis as a major source of morbidity and mortality had been taken. In 1906 an Antituberculosis society was formed, and in 1908 the Public Health Act was passed providing authority for a Provincial Board of Health. In the same year a free

tuberculosis dispensary was opened in Charlottetown. In 1915 the first Tuberculosis Sanatorium in the province was opened in North Wiltshire. However, the major and definitive step taken in the control of this disease occurred in 1930 when Dr. P. A. Creelman was appointed "Tuberculosis Diagnostician" and the present Provincial Sanatorium was built and opened in 1932 with Dr. Creelman as superintendent. Dr. B. C. Keeping had been appointed Chief Health Officer during the previous year.

Advances taking place in clinical medicine in other parts of the country were gradually adopted here. In 1946 the provision of Laboratory services was placed under control of the Department of Health by the creation of the Division of Laboratories under the direction of Dr. J. H. Shaw providing service locally which heretofore had been unavailable. With the great advances in clinical medicine in recent years various departments and services have been added to the hospitals in the province. Physicians with specialized training and knowledge, have settled here to practice and provide a range of highly specialized services that cover all but a very few of the major specialties.

During the middle years of this century changes in the mode and economics of practice have gradually emerged. New patterns of practices have developed with the establishment of group practices or Clinics in various centers, and specialists have become much more highly trained in their own fields, and at the same time, more generally available. During this same period of time also, social and economic changes across Canada have brought about the development of numerous forms of prepayment of medical services. At the same time, Government recognized the changing trends in society and its obligation to provide for those who could not provide for themselves. During the 1950's and 1960's these trends evolved into the two major social developments of medicine of recent years — the Hospital Services Program which was introduced in this province in 1959 and the Health Services Program introduced here in 1970. These programs represent the culmination of one part of the evolutionary process that began when the first doctor treated the first patient in this province some 200 years ago. The culmination of the other part of the evolutionary process lies in the high level of medical care that is available throughout the whole province. □

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# Reminiscences

Bertha Ogilvie Archibald\*

Halifax, N.S.

Now I am old and my walls have grown dim,  
My life has been sad and really quite grim.  
A riddle am I, just who can I be?  
Locked doors have I not, I live near the sea.  
Two storied building am I, nothing more,  
Store many things for army on shore,  
In '37 then changed I my name,  
Life after that was never the same.  
North wings and south wings were soon put in place,  
The sick and the dying now filled up my space.  
Riddle I've answered I do now believe,  
But I must go on this story to weave.

A hospital can a great blessing be,  
Proud were the old city fathers of me.  
My early years were in their tender care,  
An asset was I to this city so fair.  
But this city later grew weary of me,  
Child of the Province I soon was to be,  
On mound over there now graced by tall trees,  
Once a hanging took place — mutiny on high seas.  
Now that was before I came into view,  
Interns and nurses, how little they knew  
As they paused by these trees to say adieu,  
That in this sequestered spot, which everyone knew,  
Four sailor lads sad farewells having said,  
Under these trees heard their last summons read.  
Great consternation was theirs had been said,  
As these four lads to their death were led.

With Morris Street left, and South Street right,  
A high picket fence was then on this site.  
Right down Tower Road it then could be seen,  
With lime trees blossoming along the green,  
Blossoms filled with the murmur of bees,  
As they drank sweet nectar from those lovely trees.  
Connecting the hospital to the street  
Was a serpentine path for weary feet.  
With a driveway left and a driveway right,  
Those stately lime trees are still my delight.  
My bricks no longer glow in the morn,  
My mortar is thin and crumbling, and worn,  
My serpentine path no more can be seen,  
Neither horse nor buggy, nor pastures green.  
My chains and hitchings posts, knarled and chewed,  
Could tell many a tale and many a feud.

That Cape Breton giant, Norman MacKay,  
A great surgeon, one dare not deny,  
His fame had gone forth for many a year,  
And when he died there was many a tear,  
That doctor's carriage would never hold two,  
He filled the whole seat, which sagged when in view.  
His little brown horse so dapper and bright,  
Trotted along as if the doctor were light.

Then old Dr. Chisholm Murdoch you know,  
Who's portrait hangs in the hall down below.  
Sometimes his horse he would leave standing there,  
Hitched to its post in the rain, year by year.  
So absent minded at times was he,  
That he'd take Shank's Mare to the Infirmary.  
Worried and distraught, but with conscience free,  
Well versed in drugs, and a surgeon was he.

From Cape Breton over did he come too?  
How he loved heather, and the gaelic he knew.  
When the explosion to Halifax came,  
His temple artery was severed in twain.  
Dr. Lou Thomas his neighbour quite near,  
Sutured it well, then sent him out here.  
When daily papers again were on sale,  
Dr. Chisholm read something which caused him to quail,  
A long obituary bearing his name.  
He chuckled and laughed as he read it through,  
"Say, that man Chisholm, I would sure like to view."

Now old Dr. Smith from Dartmouth town.  
Was much better known as "Monty" in gown.  
In his high top buggy he would drive up the land,  
Always a coloured boy holding the reins.  
He was tall and thin, and his eyes were blue,  
They had a kindly smile when he spoke to you.  
Prescriptions for stomachs he surely knew.  
Belladonna plasters, were his favourites too.  
Catharidis Plasters a blister would make,  
If sleep would not come, a Veronal take,  
Having no time to drive to the ferry,  
His noontime meals he would eat in a hurry.  
In his high pitched voice he would always say,  
"Have you room Miss Manson for me today?"  
Dr. Smith e'er this, has now passed away,  
Perhaps people still take his powders today.  
Oh, Miss Manson was, I should explain to you,  
A dietitian and Housekeeper too,  
A stately woman with a queenly grace,  
She had a beautiful, beautiful face.

Dr. M. A. Curry, Gynaecologist.  
The stories he told would make quite a list.  
He was not overweight and not very tall.  
A picture he gave now hangs in my hall.  
The ladies those days thought the world of him,  
He was a surgeon of no mean ken.

Dr. MacAuley, Assistant was he,  
Dark of complexion, so happy and free.  
He laughed as he talked and often would say,  
Why borrow trouble, be happy today.  
I guess it was true, the story he told.  
Those whisky stories, they never grow old.  
A hole in the floor one night had been bored,  
In little brown jugs the whisky was stored.  
Down in the basement the interns found  
A small rubber tube as a syphon sound.  
That is the story he told to me,  
A red letter night in the old V.G.  
Perhaps it happened in the year '03,  
The exact date was not given me.

Dr. George Campbell with light sunburnt hair,  
Had a very smart buggy and a sorrel mare.  
He from the north end would come every day,  
The Medical wards his visits to pay.  
Pills freshly prepared were his great delight,  
The Pharmacist Tyle was ever in sight.  
Guy's hospital pill, and Calomel too,  
Filled the green cards on the tins then in view.  
Campbell, a real Scott with ruddy face,  
The kindest of eyes, and a Christian grace.

\*Pharmacist — Victoria General Hospital (1917-1946).

Dr. Campbell, often called "Don,"  
Though small his stature, a brilliant man.  
He drove a white horse, and he too each day  
To the Medical wards a visit did pay.  
When speaking of him, my memory is dim,  
When he left the staff, I dinna kin.

Dr. Lou Silver, the smartest of men,  
Seldom wrote anything using a pen.  
Was it writer's cramp that bothered him so?  
That secret was his, we shall never know.  
A great diagnostician then was he,  
As well a great teacher at Dalhousie.  
He was very tall, and so very thin,  
Your greatest respect he would surely win.  
He rarely talked and was quiet with men,  
But could wield a trout line, if not a pen.

Dr. George Murphy, a man of real note,  
Won for himself the Conservative vote.  
He laid down his knife, and took his pen,  
As minister of health, he guided us well.  
Liberals came in, Conservatives fell.  
He was a surgeon so gentle and kind,  
And a more handsome man you seldom will find.

December the sixth, that direful day,  
That terrific explosion almost blew us away.  
As the doctor stood waiting in cap and gown,  
The report was heard throughout the town.  
Dr. George was hurt as the sky-light fell,  
And from that day has never been well.  
A nerve was damaged when the glass fell.  
We hope through the years he may find his reward,  
As he attempts to enjoy the things he adored.

J. G. MacDougall from near Pictou town,  
At Blue Mountain did he first wear a gown?  
We've found that is true, how proud they must be,  
As gowned at MacGill he received a degree.  
"Master of Surgery" his merit well known  
His wonderful skill in this way was shown.  
His candle he burned well into the night.  
His stories he told with equity.  
All his lectures would most solemn be.  
True friends has he, like the sands on the sea.  
Less active since retirement is he.

Dr. G. MacIntosh, you will recall,  
Gave up his practice quite early one fall.  
An accident happened to his right arm,  
Amputated by surgeons with great alarm  
A braver man you will never see,  
My superintendent he now was to be.  
His humor was dry and witty I ken.  
He was indeed the most witty of men.  
Five hundred people are now under my roof,  
His chair was his throne and he ruled by truth.  
The hours he spent with blue prints in hand.  
The life was so full, with many demands.  
When the lights came on in my new V.G.,  
They were a lighted monument to such as he.

Dr. Kirkpatrick, a Christian was he,  
But his Christian name has just gone from me.  
Eye, ear, nose and throat was his specialty.  
A wonderful surgeon truly he.  
To the Pharmacy came he most every week,  
To check his weight, his heart being weak.  
Dispensary was then called, Surgery,  
Even Departments change names you see,  
Surgery, Dispensary, Pharmacy.

Dr. A. E. Doull I was soon to see,  
His acumen was great, though young was he.  
How he would rush in at 4.45,  
That quick step of his, so alert, so alive.  
Another specialist: eye, ear, nose and throat.  
Dr. Lessel and he caught many a trout.  
When May's fishing reel made its cheerful sound.  
No Lessel, no Doull, could ever be found.

Specialist Mathers, so genial and bright,  
Gave many dear children their normal sight.  
A case I recall, a chap twenty-two.  
The light of our sun he thought never to view.  
Blind from his birth, so pathetic to see.  
In heaven he thought he surely must be,  
When they lifted the pads his eyes to see.  
Interns would wait for him in my lobby  
As riding was his Sunday hobby.

Dr. Hugh Schwartz, the most sprightly of men,  
His walking stick he brought with his pen.  
Specialist wonderful, always on time.  
These two men joined my Specialist line.  
Dr. Fraser Harris, what would he have done,  
Dr. Schwartz to him was just like a son.  
Well I remember the day he came  
With his hair brushed back, his eyebrows the same.  
His smile and his bow, his "Oh, where is the thing?"  
An instrument nurse must know everything,  
Be it Septum or Tonsillectomy,  
His operations were always at three.

Dr. Doull Jr., like father, like son,  
Would call at noon and at setting sun.  
Ear, eyes, nose and throat, but the eyes seemed to be  
Our Dr. Doull Jr.'s speciality.  
Never grew old or impatient either,  
In this way he is just like his father.

Dr. MacRae with his kind Scottish face,  
With Mathers and Doull soon found his place.  
His special line seemed to be on the throat.  
These interesting cases, we should take note,  
Now miracle days are really not past.  
Throat operations for him have all passed.  
Ophthalmology is now mailed to his mast.  
Old Dr. Cunningham of Dartmouth town,  
Now, he too had a son of great renown.  
He was a Specialist once, on our staff,  
So happy was he, he caused many a laugh  
Yachts were his hobby, so fond of the sea.  
Now eye, ear and throat was Allen's great skill,  
He left us so early to write his will.

Dr. Hogan was tall, straight, and fair,  
When he spoke, that voice just filled one with fear.  
A military man he later became.  
A surgeon was he, though young for the same.  
He brought her real fame and stood for her truth.  
When the Dalhousie unit went to sea,  
No braver man in the troops could there be.  
When he came home from overseas,  
He decided to plant a new family tree.  
A Doctor's widow, a friend of his youth,  
They lived quite happily, and that is the truth.  
Though he had children and so did she,  
A very kind father he proved to be.  
Instruments valiant he had to lay down,  
Retractors, scalpels, sutures and gown.  
Rheumatic fever in his early youth  
Had weakened a valve, in that stout heart of truth.  
At Camp Hill hospital he said his farewells,  
The soldiers' surgeon whom all loved so well.



Dr. H. B. Atlee — Annapolis Town.  
 A son of a druggist of good repute.  
 Came to Dalhousie and became astute.  
 Untiring, most irrepressible youth,  
 A gentlemanly lad, never uncouth.  
 Antigone was his first clientele,  
 The elder ladies there, remember him well.

When Anvil chorus called him to the front,  
 He accepted the call without affront.  
 When war was over, he came back to us,  
 And was then appointed Gynaecologist.  
 The nurses dashed spiritedly around  
 In operating rooms, when he is gowned.  
 Neither gentle, genteel, nor yet profound  
 Were his words, when things were not quite sound.  
 Mental equipment in waves of advance,  
 Striking the city and mayor, like a lance.  
 His language just bristled with pros and cons.  
 Satirically Bengé clears up city's wrongs.  
 An Author was he in the days gone by,  
 But of late to me his pen seemed quite dry.  
 When first he came, there was many a frown,  
 And they said, "He will have to make good,  
 or else leave town.  
 From that time forward, on his mettle was he,  
 His speed out stripped all in surgical gynaecology.

Mr. William Wallace Kenny, Lockeport.  
 Sailing the seven seas, his early forte.  
 The seas were not kind, breaking down his good health.  
 Down came his sail, would the land give him wealth?  
 Bookkeeping then in a Drug House began,  
 So life was started again on a new plan.  
 My superintendent he soon came to be,  
 Disciplinary of the highest degree.  
 A cultured, scholarly, capable man,  
 His hobby was fishing, in spring he would plan.  
 He laughed with his eyes, and said volumes too  
 If things were not right — oh, what an ado!  
 This helm he held for many a year,  
 And his half mast sail, brought many a tear. □

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## NEW MEMBERS

The Physicians listed below have joined The Medical Society of Nova Scotia between May 1, 1973 and August 31, 1973. A most cordial welcome is extended from the Society.

Dr. S. L. Barclay	New Glasgow	Dr. L. S. C. Mendis	Halifax
Dr. A. E. Bent	Wolfville	Dr. M. A. Mian	Sydney
Dr. J. P. K. Binnie	Sydney River	Dr. E. A. Morse	Bridgewater
Dr. L. M. Braganza	Halifax	Dr. W. A. Murray	Halifax
Dr. J. R. Brown	Dartmouth	Dr. R. C. MacDonald	Halifax
Dr. M. P. Chaturvedi	Glace Bay	Dr. D. R. MacLean	Pictou
Dr. A. K. Chin	Halifax	Dr. P. D. MacLean	Halifax
Dr. L. M. Cook	Truro	Dr. M. S. McQuigge	Lunenburg
Dr. J. M. Din	Truro	Dr. M. D. Nixon	Dartmouth
Dr. P. H. Doane	Halifax	Dr. W. S. Parkhill	Halifax
Dr. S. Doctor	Halifax	Dr. W. T. Popma	Baddeck
Dr. J. M. Din	Truro	Dr. W. Richmond	Bass River
Dr. S. B. Gibbon	New Glasgow	Dr. D. P. Sinha	Sheet Harbour
Dr. G. A. Gracie	Port Hawkesbury	Dr. D. B. Sheehan	Clark's Harbour
Dr. I. Holmes	Halifax	Dr. D. B. Shires	Lower Sackville
Dr. O. H. Horrelt	Halifax	Dr. A. K. Stokes	Freeport
Dr. J. Hosein	Halifax	Dr. M. J. C. Thomson	Halifax
Dr. D. M. Keating	Halifax	Dr. N. B. Trask	Dartmouth
Dr. O. Mann	Halifax	Dr. T. R. Verma	Halifax
Dr. B. R. Maxwell	Glace Bay	Dr. R. M. Washburn	Amherst
		Dr. P. W. Wong	Sydney





## EARLY ACADIAN HOSPITALS

Some time ago, the *Glace Bay Gazette* published a description of what was claimed to be the first hospital in Nova Scotia, the King's Hospital at Louisburg, the plans of which, made in 1724, are preserved in the National Library at Paris. The building was quite a pretentious structure of masonry, two storeys in height and 265 feet in length, the central portion being surmounted by an artistic spire which reached a height of forty feet. There were four main wards, with accommodation for one hundred beds, besides several private wards. The hospital was administered by the Brothers of Charity. Ample provision was made for the observance of religious rites, as the hospital chapel served garrison and town.

A photographic copy of the drawings which lies before the writer, indicates that each long ward was lighted by only six small windows; and there is nothing to show that the wards were heated. Fireplaces are shown in adjoining rooms, and chimneys are shown in the roof over the wards, but nothing suggestive of a fireplace appears in the floor plan of the wards.

At the rear the ground was terraced to form two courts, of which the lower was used as a garden and recreation grounds.

This hospital was evidently a part of a general scheme, prepared after the treaty of 1713, for the establishment of Louisburg as a great French fortress. Only meagre records are available, but it would seem that rather complete plans were made for the lay-out of the town and for the principal buildings as well as for the fortifications. Old maps of Louisburg show that the hospital was centrally located and that it was one of the largest buildings in the town.

It is not likely that work on the construction of the hospital was commenced before 1726, and it is quite possible that the present year marks the bicentenary of its foundation. On this point, however, I have been unable to secure definite data.

Although of such ample proportions and of such substantial construction, this hospital had but a brief history, as it was destroyed in the general demolition which

followed the final capture of Louisburg by the forces of Britain.

There is little pleasure in disturbing the convictions of others, but in the interest of accuracy it is necessary to dispute the claim made that the King's Hospital at Louisburg was the first hospital in Nova Scotia. This distinction undoubtedly belongs to Port Royal, (now Annapolis Royal).

In the section on early Canadian hospitals in Dock's History of Nursing there is the following:

"The early French hospitals of which we find authentic record are, in chronological order, as follows:

St. Jean de Dieu, founded in 1629, or shortly after, at Port Royal in Acadia (now Annapolis); no longer in existence. . . ."

If this were an "authentic record", it would give this hospital priority among the hospitals of America save for one in Mexico. It is, however, extremely unlikely that it existed at so early a date as 1629 or even "shortly after." The number of French people residing in Port Royal and its *banlieue* at that time must have been very small. Many of those who had settled there moved away when Sir William Alexander's colony was established near by, 1621. Some of these returned after de Razilli's colony was moved from La Have to Port Royal, by D'Aulnay, about 1634, and were joined by a few settlers from France, but the population grew slowly for some time. As late as 1671, Grandfontaine's census of Port Royal accounted only 361 souls. Fifty-two years later, however, the number had increased to 622.

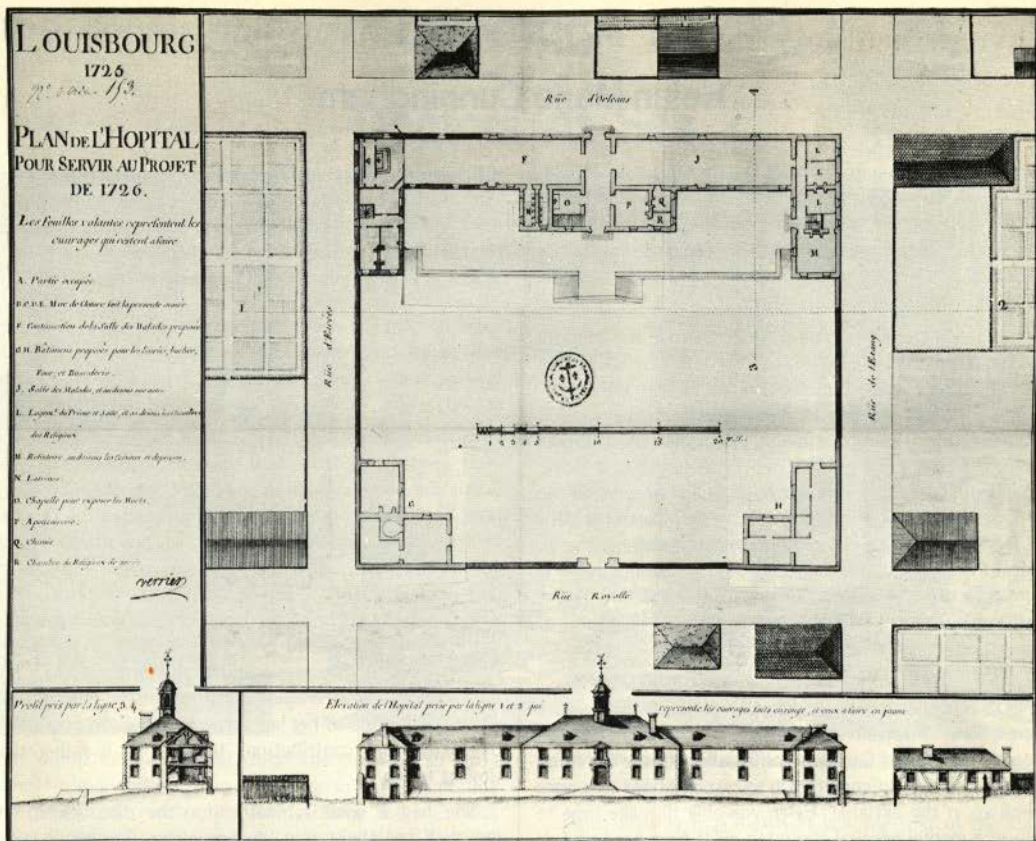
In his history of the County of Annapolis, Calnek states that "in 1702 the earthworks of the fort were completed, and a house for a hospital constructed, which was under the management of the two surgeons of the garrison." This is doubtless the hospital concerning which Rameau quotes (in "Une Colonie Feodale") from the Archives de la Marine:

"L'hôpital qui est otabli a Port Royal a vingt-cinq pieds de long sur dix-huit de large, — huit lits tres-mauvais, car il n'a rien ete envoye pour cet hôpital depuis cinq ans."

This small hospital, with its eight very poor beds, and which had had no support for five years, must have been in existence for about a quarter of a century before the King's hospital was founded at Louisburg.

Students of Acadian history will remember the enmity that existed between Charles Amador de la Tour and D'Aulnay, the melancholy death of the first Madame la Tour, the tragic drowning of D'Aulnay, and the satisfactory ending of a feud in la Tour's marriage to D'Aulnay's widow. Among the descendants of this union were Charles de la Tour, who, in 1705, petitioned for the rentals of certain lands which had been granted him, and his niece Marie Mius de Poubomcoup, against the wish of Bonaventure,\* the acting-commandant, Marie married an officer of the garrison, Captain Francois du Pont du Vivier. Because Charles de la Tour had been a witness to the marriage,





Courtesy – Public Archives of Canada Map Division.

Bonaventure denied him the rentals asked for and ordered that they be paid to the King's Receiver, "declaring that the money ought to be given to the hospital."

There is an old plan of *Fort Royal a Lacadie*, dated 1703, which intrigues one into a fresh bit of conjecture. In this case one has only the key to the plan to assist him. An item in this key – *Logement de Gouverneur commence* – suggests that this is perhaps the only building shown in the plan which was actually under construction, as it is reasonable to infer that the gouverneur would be the first official to be provided for. There are indicated a *Place pour de Lieutenant de Roy*, a *Place pour le logement du Major*, and "places" for various officials. It is of especial interest that the *Place pour le Chirurgien Major* is indicated as covering much more ground than is assigned to any other

official. As even the chirurgien major of those days scarcely ranked as the most important of officials, it is unlikely that the building (? to be erected) was intended for his sole occupancy. May it not be that it was really for hospital purposes, and designed to replace the little hospital which at that time was suffering sadly by reason of withheld support? □

W. H. HATTIE.

\*Bonaventure had been left in command by Broullan when the latter left for a visit to France. Broullan was perhaps the most unpopular of Acadia's governors. Among the many sins laid to his charge was that of "disturbing the wedding festivities of Pontif, the surgeon."

Reprinted from The Nova Scotia Medical Bulletin, March, 1927.

"A man is a kind of inverted thermometer, the bulb uppermost, and the column of self-evaluation is all the time going up and down."

Oliver Wendell Holmes, Sr.

Physician Self-Assessment – ANSWER

Question No.

Correct Answer

331

C



# An Appreciation

## Helen Marie Cunningham

Helen Marie Cunningham, M.D., Certificant in Psychiatry of the Royal College of Physicians, and wife of Dr. R. Murray Cunningham, died at her home in Halifax on July 5th. after a long illness. She will be remembered by her associates as a woman who generously used her remarkable ability to help and encourage others.

Helen was born in Toronto, and obtained her medical degree from the University of Toronto in 1947. She married Dr. R. Murray Cunningham and the two did a short term of general practice in Saskatchewan. They were in England from 1949 to 1954 where Helen started post graduate training in psychiatry at the Maudsley and Royal Bethlehem Hospitals. On returning to Canada, she joined the staff of the Mental Hygiene Institute on a part-time basis and also became involved in group psychotherapy at the St. Vincent de Paul Penitentiary, incidentally being the first woman to get into this kind of therapeutic situation in that formidable institution. She, with her small group of associates, were known as the "C.P.R. — the Committee for the Prevention of Recidivism."

In 1958 the family was in Rangoon, Burma where Murray was involved in setting up a radiotherapeutic program as part of Canada's contribution to the Colombo plan. In addition to coping with living conditions that were primitive in the extreme, Helen was able to make time to help in a mental hospital about ten miles from her home. It was at this time that the first signs of that illness that was later to cause her death became manifest. On completion of the assignment in Burma, the family returned to Montreal. In 1961 they came to Halifax.

In 1965, Helen resumed her psychiatric training, this time at the Dept. of Psychiatry of Dalhousie University. She obtained her certification from the Royal College in 1969. Following this she became Lecturer and Fellow in Psychiatry at the Medical School, and became Psychiatrist-in-charge at the Dartmouth branch of the Atlantic Child Guidance Centre. She was on the staff of the Isak Walton Killam Hospital for Children, and was Consultant to the Speech and Hearing Clinic.

These are the bare facts of her professional career but they give little clue into the kind of woman she was. Helen was kind and compassionate and worked with great diligence to bring about changes she felt were needed in many worthy fields.

She was deeply concerned about peace and mutual understanding among the nations of the world. To try to do something about this, she became one of the founding members of the Voice of Women. The following statement of purpose of that organization — "To unite women in concern for the future of the world; to help promote mutual respect and co-operation among nations having

different ideological assumptions; to protest against war or the threat of war as a decisive method of exercising power; etc." — was largely written by her. She helped organize an International Conference of Women for Peace held in Montreal during International Cooperation Year, 1963.

In religion she was a member of the Society of Friends or Quakers, and helped organize people of like mind in the various places where the family lived. She was indeed guided by the "Inner Light" talked about by that faith.

Wherever Helen lived she found the areas which she felt most needed help and acted upon her concerns. In Nova Scotia she became involved with the needs of children, and after certification in psychiatry, she directed the program of the Child Guidance Centre in Dartmouth in a most constructive way. She worked for active community participation and involvement. She felt the need for a child advocacy program to protect the rights of young people in the Province and helped organize the Children and Youth Action Council. She was a strong supporter of the Child Life Program of the Isak Walton Killam Hospital for Children and one of her last acts was to try and publicize it by asking that contributions be sent to it rather than flowers for her.

She had a great sympathy for the discouraged, the defeated and those that life passed by. She would often take on patients for therapy that others had rejected as not worthwhile. And finally, when she realized that she had not much longer to live, she did not slow down but rather worked the harder to get done what she felt was necessary. She seemed to be saying, "There is little time left, let us get on with the job." Oh that the rest of us could partake a little of the spirit of Helen Cunningham! □

W.I.M. and C.M.

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Attitudes of Nova Scotia Physicians to Child Abuse: —  
Continued from page 189.

### References:

1. Fraser, F. M.; Anderson, J. P.; and Burns, K.: Child Abuse in Nova Scotia. Dalhousie Law School, 1973.
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## Doctors At Sea



It didn't take any great diagnostic expertise to put a name to the vertigo, nausea and general disorientation experienced by Halifax physician George Sapp as Nova Scotia slipped below the horizon behind Dr. Keith Walling's TAZAR II and a 60-hour plus voyage to the start of the 1973 Marblehead to Halifax bi-annual classic loomed ahead.

Treatment was easy, too. One quarter pound of dry biscuits each watch and a gratis bed ashore at the Massachusetts starting point were a good start for the upcoming competitive return trip for the physician-cum-first time ocean racer.

Four Canadian physician-owned vessels were in the 110 boat tourney: Keith Walling's TAZAR II, Gordon Bethune's ENCOUNTER II, Charlie Graham's CRUSADER IV—all from Nova Scotia—and WIND SONG, owned by New Brunswick's Harry Rich.

The July 5 start came with a steady, moderate breeze under clear skies which were to last until late Monday night for most skippers and crews. A combination of electrical storms and the proverbial "t'ick of fog", however, let Nova Scotians know they were really home by the Tuesday first boat finishing date.

By late Tuesday night and through Wednesday morning's sunrise, Halifax's fog-bound North West Arm was ringing with plaintive cries from unseen helmsmen who alternately sought directions from equally invisible shore watchers and commented loudly on the nature of the climate and its possible origins. Meanwhile Halifax architect and race co-chairman Lester Page assumed a quayside stance to greet

the arrivals with a hand-held foghorn and some bellowed repartee of his own.

Keith Walling in TAZAR II was the first of the local physicians across the line. He finished 45th overall. Dr. Charlie Graham's boat was the 50th. Moncton's Harry Rich was 66th, and ENCOUNTER II, under skipper Gordon Bethune, 67th.



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##### INTRAMUSCULAR/INTRAVENOUS<sup>††</sup> ADMINISTRATION:

##### A. Urinary Tract Infections

The usual dosage in lower urinary tract infections is 0.8–1.2 mg/kg/day in two or three equally divided doses for seven to ten days. For increased antibacterial activity it may be advantageous to alkalinize the urine. Infections of the upper urinary tract, such as pyelonephritis, should be treated according to one of the schedules for systemic infections.

##### B. Systemic Infections—Normal Renal Function

The treatment of systemic infections in patients with normal renal function requires a dosage of 3 mg/kg/day in three equally divided doses. A course of seven to ten days of treatment will usually clear an infection due to a susceptible organism. In patients with life-threatening infections, dosages up to 5 mg/kg/day should be administered in three or four equally divided doses. This dosage should be reduced to 3 mg/kg/day as soon as clinically indicated.

##### C. Patients with Impaired Renal Function

In patients with diminished renal function or those undergoing intermittent hemodialysis, the dosage has to be adjusted depending on the degree of renal impairment.

For detailed information consult the product monograph or the Schering Representative.

##### <sup>††</sup>INTRAVENOUS ADMINISTRATION

The usual effective dosage of GARAMYCIN Injectable administered intravenously is 3 mg/kg/day in three equally divided doses.

For intravenous administration, a single dose (1 mg/kg) of GARAMYCIN Injectable is diluted in 100–200 ml of sterile normal saline or 5% dextrose. The solution is infused over a period of one to two hours and repeated two to three times a day. The usual duration of treatment is seven to ten days.

#### PRECAUTIONS:

##### Ototoxicity:

Gentamicin, like other aminoglycosides, has produced ototoxicity in experimental animals and man. It is manifested by damage to vestibular function and may be delayed in onset. Damage has occurred in patients who were uremic, had renal dysfunction, had prior therapy with ototoxic drugs or received higher doses or longer therapy than those recommended. The concomitant use of ethacrynic acid and furosemide should be avoided. The physician should strongly consider discontinuing the drug if the patient complains of tinnitus, dizziness or loss of hearing. Serum GARAMYCIN levels in excess of 12 µg/ml should be avoided.

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Nephrotoxicity manifested by an elevated BUN or serum creatinine level or a decrease in the creatinine clearance has been reported with GARAMYCIN. In most cases these changes have been reversible.

##### Neuromuscular Blocking Action:

Neuromuscular blockage and respiratory paralysis have been reported in animals. The possibility of this occurring in man should be kept in mind particularly in those patients receiving neuromuscular blocking agents.

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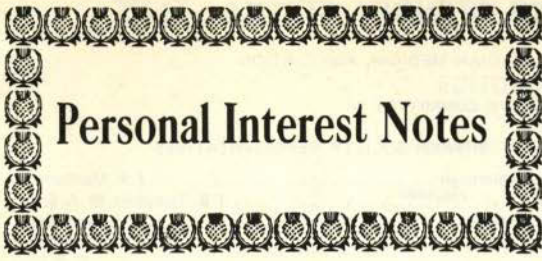
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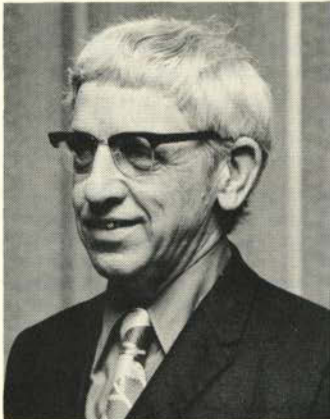
# Personal Interest Notes

## The College of Family Physicians of Canada

The College of Family Physicians of Canada held their Annual Meeting in Quebec City recently. **Dr. Ian MacGregor**, well known Halifax physician was elected president of the College for the 1973-1974 term of office. At the College's Annual Convocation, **Dr. F. Murray Fraser**, Halifax was presented with the Physician of the Year Award. The recipient of this award is chosen by the Executive of the College for his outstanding qualities as a physician and a person. During the meeting, Fellowships were awarded to **Dr. D. C. Brown**, **Dr. K. P. Smith** and **Dr. R. L. Langdon** all of Halifax and **Dr. J. M. Williston**, New Glasgow.



**Dr.  
F. Murray  
Fraser**  
  
*Physician  
of the  
Year  
Award*



**Dr.  
H. Ian  
MacGregor**  
  
*President  
1973-1974*

**Dr. Albert W. Taylor**, Halifax, formerly of Saskatoon was recently appointed Medical Director at Victoria General Hospital. We welcome Dr. Taylor back to Halifax where he graduated from Dalhousie University Medical School in 1951.

**Dr. R. C. Dickson**, Professor and Head of Dalhousie University's Department of Medicine and a former President of the Royal College of Physicians and Surgeons of Canada, has been named Honorary Physician to Her Majesty Queen Elizabeth for a two year term.

### Obituaries

**Dr. Helen Cunningham**, 50, died July 5, 1973 at her home in Halifax. Born in Toronto she was the former Helen Marie Wasman. A lecturer in the Department of Psychiatry at Dalhousie University, she had graduated in Medicine from the University of Toronto in 1947. She is survived by her husband, Dr. Robert M. Cunningham and two daughters, Jocelyn and Vivian. The Society extends sincere sympathy to the family.

**Dr. David Drury**, 82, one of Canada's oldest, active general practitioners of medicine died August 28, 1973 in Amherst. Born in Boston he graduated from Dalhousie University Medical School in 1918. Dr. Drury practiced medicine in Amherst for 38 years. He was made Senior Member of The Medical Society of Nova Scotia in 1963 and in 1973 he was made Honorary President of Dalhousie Medical Alumni. He is survived by two sons Stuart and Kenneth and a daughter Ruth (Mrs. Lionel Naylor) to whom we extend sincere sympathy.

**Dr. J. G. B. Lynch**, 88, of Sydney died August 27, 1973. Born in Ontario he lived in Sydney since 1910 where he ran a general practice. In 1954 he was made Honorary Member of The Medical Society of Nova Scotia. He is survived by his widow Margaret, two sons Dennis and Kevin and two daughters Betty (Mrs. Henry Jandras) and Georgie Ann. Our sympathy is extended to his family.

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