

THE NOVA SCOTIA MEDICAL BULLETIN

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Four steps into Nova Scotia's future

A few years ago, the *Bulletin* published an account of the "horse and buggy" days of medicine in Nova Scotia.¹ Rustic imagery worked its art, and the mind's eye saw how placid pastoral scenes, occasionally relieved by moments of drama and despair, formed the warp through which the woof of the individual and often isolated art of medicine was woven. The physician then worked for his patient's health under circumstances intolerable to us; but by his very presence, status, and special human skills he made a personal contribution to the health and also the total welfare of his local community. The relationship between patient and physician was one-to-one, the physician's contributions to society were often notable, and if bear's grease and fresh farm produce were his reward it was at least a personal recognition.

The modern era is like a page written in a different book in a different language. Developments like electronic and computer technology, new matériel, and potent and effective drugs have, certainly within the past generation, changed the face and form of medicine. Specialization, complexity, and organization now form the background of the doctor's work, and group practice, specialized care units, the growth of university affiliation, concepts like regional health care, and increasing governmental planning reflect this. Not surprisingly, the physician finds that his role is more and more than of a team member and indeed that he is not necessarily the captain of the team. To achieve this position he must actively earn it. And beyond the practice of medicine, the physician-citizen realizes that the social fabric of today is equally complex. If, as many physicians do, he wishes to serve his community as a citizen and as a physician, then again he must supplement his native ability with a particular effort to understand various social problems.

In the future, change, like an ever faster flowing river, will continue to accelerate; as the river of progress widens and deepens, so must we widen our horizons and develop our ability to swim with the current. Horse-and-buggy ideas are anachronism.

How does the Medical Society fit into this scenario? What can the Society offer the community that is Nova Scotia?

First, the Society must continue to bring the best of medical care to the citizens of the province. Individual physicians will always undertake to do this, but there are particular ways in which the Society, as a group, can help. The Uterine Cancer Detection Program and the notable efforts to improve maternal and perinatal health are just two examples. Many others equally well mark the long hours and hard work given by many physicians in the name of the Medical Society. From time to time, fresh fields of interest are developed; recent emphasis on the provision of health services and the Society's interest in future patterns of health care are illustrations of this. The future indeed is so challenging that it is not too early to consider how medicine might be practised in the year 2000, and to consider how we should orient today's students, the practitioners of the 21st century. Individual physicians come and go; the Medical Society provides continuity, and can tap its members' expertise over many years. In short, the Society can give Nova Scotia expert advice about medical care, culled from the past and projected into the future. To some degree the future is of our own making; the Society would be remiss if it did not look beyond the horizons of its own members.

Second, because health care is ever more expensive and its delivery steadily more complex, government has

assumed responsibility for many facets of health care delivery. No single physician, Canute-like, can stem the tide, and group organization has become essential. In linking government with the citizens it represents, the Medical Society can offer its unique offices in the solution of those problems which affect us all. Frustrating and difficult though it may be, a continuous dialogue with government on the one hand, and with the public on the other, is a necessary condition of democracy, as it relates to professions. Some medical groups in Canada have balked at any changes, division rather than unity within the medical profession has resulted, and the profession's potential for advice and acceptance by the community has become eroded. In Nova Scotia, different reasoning or temperament has helped steer the medical ship between the Scylla of ultraconservatism and the Charybdis of government decrees and dictates — so far. Today negotiation is inevitable, often hard-fought; and if each side does feel that it loses something in the process, each side also has something to give. Toughness and firmness is essential, but so is resilience and acceptance of conciliation. In all this a rational, informed, and flexible Medical Society is essential if inevitable changes are to occur without bitterness and selfishness. In the long view, medicine in Nova Scotia stands to gain or lose much, depending on the Society's stand-and-work.

Third, the Society, as it has done lately, can demonstrate its willingness and ability to work with citizens in providing health care for those who, for various reasons, are otherwise deprived of medical services. In this context, the gracious letter from the Chairman of Halifax's North End Community Health Association printed on page 169 of this Bulletin speaks for itself. And the report, on page 163, about the Medical Society's participation in community health care provides a picture of this newer facet of medical care.

In this venture, a cooperative effort by local citizens, medical students, and concerned physicians, the Medical Society as a group has provided more than just its name, while its members have pooled their talents and energy towards a group effort.

Fourth, the Society has committed itself to the well-being of that part of Canada we call Nova Scotia. In a sense, the province is our patient. From Hippocrates onwards, the medical profession has been intimately concerned with man's environment. Today our highly affluent and affluent society regrettably prefers economic expedience to ecological evaluation, the garbage dump to the greensward; but still the medical profession has great potential for good which, traditional though it is, yet is not fully realized. The Medical Society, however, through the energies of its Public Health Committee and of certain individual physicians, has made an active contribution to the growth of environmental concern. Physicians, more than most, can actively enjoy the delights of Nova Scotia, so gracefully portrayed in a recent issue of this Bulletin,² but romanticism and aesthetic appreciation of our province, our patient, come to naught if its beauty and fibre are steadily sapped. As a profession we could so easily repay our debts to a unique part of Canada. For the Medical Society it is one more opportunity to crystallize the feelings, the knowledge, and the concern of its members, and thus to channel the collective energy of the Society towards the long term care of Nova Scotia.

These are four clear-cut ways in which the Medical Society of Nova Scotia can serve its province. The Society's organization has been carefully built up to tackle such issues, in a way in which the individual physician, by himself, would find difficult. True, many physicians work independently for the good of their community, but this is

continued — next page

Odds or Evens

It is an innately human trait, engrossed as we are with the intimations of immortality, to mark our passage by the anniversary. In this celebration, the multiple "5" holds great power, and the significance of the occasion is directly proportional to the magnitude of the product of this arithmetic exercise.

These numerical niceties played no small part in prompting the Class of '55 to search for an appropriate manner to mark its 15th anniversary in 1970. The logistics were such that the highest yield of extant members could be expected during the annual Dalhousie Refresher Course cum Nova Scotia Medical Society meetings in November, but, other than the standard "bash", what to do? It was decided that the most meaningful would be to have a session, within the framework of the Refresher Course, consisting of presentations by class members of work from their own fields of interest.

The content of these papers was such that the Editorial Board felt they would appeal to Bulletin readers at large and so the Class of '55 has now immortalized itself in that most enduring of all monuments — print.

It is our hope that this may serve as a prototype for other classes in their search for anniversary ceremonial rites.

Max Gorelick
for
The Class of '55.

not the point at issue. The point is that the Society also offers a conduit for its members' energies, a platform for advocacy, and a forum in which their ideas can be discussed, since a ready organization is available. Moreover, it is likely that social structures in the future will be such that group contributions, rather than those of individuals, will be more readily applicable to the development of society. In such a context, the Society would be wise to modify its structure as functional requirements demand.

But presently there is one major limitation to the Society's contributions. A significant number of physicians practicing in Nova Scotia — who benefit immeasurably

from the province's natural resources — are not members of the Society. Furthermore, these physicians also benefit greatly from the Society's activities, particularly from the numerous efforts the Society makes towards the betterment of medical care and of medical practice. The contributions which these physicians might be able to make, through the Society, to the development of the province which nourishes them, detracts from the potential of a united profession; indeed it is negated by a collection of individuals who remain outside the Society, presumably because of interests which are closer to themselves than to those of Nova Scotia. Perhaps if their potential for help towards the general good could be stressed, rather than their own emphasis on the necessary requirements for joining the Society, membership in the Society would increase. Short of this, and short of compulsion, the total efforts of the medical profession to care for all that is Nova Scotia will be hindered by non-membership. This the Society, having accomplished so much else, must continue to resist in the strongest possible terms. The objective of the Society must surely be to apply the intelligence, skills, and energy of all Nova Scotia's physicians, in the most effective manner, to the overall health care of Nova Scotia and its citizens. □

D.A.E.S.

References

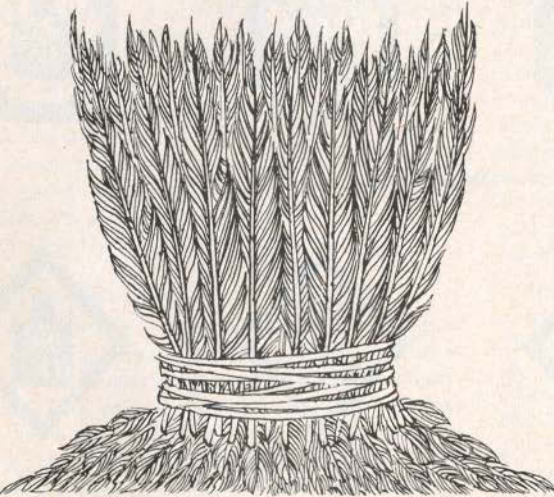
1. Morse, F. W.: A country doctor's life, 1859-1888. *N.S. Med. Bull.* 46: 169, 1967.
- 2a. Murphy, A. L.: Nova Scotia: a love story. *ibid.*, 50: p. 69, 1971.
- b. Vibert, J. C.: Between the wilderness and the sea. *ibid.*, p. 71, 1971.

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Longfellow

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Canada's Hazardous Products Act

Hazardous household substances continue to be a source of potential harm to Canadian citizens. Children especially are daily confronted by harm stemming from the unrecognized presence of toxic materials — harm which, moreover, is largely preventable. In 1969 Parliament passed the Hazardous Products Act, which prohibits the import, sale, or advertisement (for the consumer market) of some of the most hazardous household substances. The Act has now been updated and strengthened by enforcement of labelling of the containers of these substances; manufacturers of potentially harmful substances must include on the container the name of the dangerous ingredient, its antidote, and also label the degree and nature of the hazard.

The Act specifies the following groups of substances and items: chlorine-containing bleaches, cleansers, and sanitizers; corrosive chemicals; petroleum distillates and

related products; adhesives, cleaning solvents, thinning agents and dyes containing toluene or acetone; polishes, cleaning agents, liquid coating agents, paint or varnish removers containing certain dangerous hydrocarbons; fire-extinguishing fluids containing halogenated aliphatic hydrocarbons; anti-freeze preparations containing ethylene or diethylene glycol; turpentine products; methyl alcohol products; and disposable metal containers of consumer products designed to release pressurized contents by use of manually operated valves.

The most recent details of this Act may be found in the Canada Gazette, Part 2, Volume 104, Number 6. The symbols of labelling required are reprinted below in order to familiarize readers with their nature, which should have begun to become public as of June 1, 1971.

POISON / POISON



FLAMMABLE / INFLAMMABLE



EXPLOSIVE / EXPLOSIF



CORROSIVE / CORROSIF



DANGER



WARNING



CAUTION

The Doctor's Life and Practice[†]

M. O. Vincent, B.A., M.D., C.M., F.R.C.P.(C),*

Guelph, Ont.

Summary: *Some of the problems relative to the mental health of physicians are discussed in this paper, which is based on a study of 93 physicians treated as inpatients in a psychiatric unit. After describing the pattern of morbidity, the author considers the significance of alcoholism, drug addiction and suicide among physicians. The concept of role strain as a factor in this pattern of morbidity is then developed, and the present and future trends in medical practice are related to it. The author concludes by emphasizing that all physicians have problems that affect them emotionally, that beginning in medical school students should be encouraged to resolve rather than hide these problems, and that all physicians should encourage those of their colleagues who experience emotional difficulties to seek help early.*

Many papers have been published in recent years relative to the mental health of physicians and their families.¹⁻¹⁰ Rather than present these studies in detail or discuss their differences, I will give an overview of the findings.

Our own paper was based on our findings on 93 physicians who were treated as inpatients in a private psychiatric facility, The Homewood Sanitarium of Guelph, Ontario, in the period between 1960 and 1967.⁷ My impressions, in conjunction with the studies of others, suggest that there are common features among physicians who develop marked emotional problems. All the studies show a rather typical pattern of morbidity, high incidence of alcoholism, a high incidence of narcotic addiction, high suicide rates and a host of marital and family problems.

The Pattern of Morbidity

INCIPIENT PHASE Approximately 25% of physicians with emotional problems had fairly definite evidence of problems recognizable in medical school. Three groups were apparent. First, the heavy drinkers in medical school: they were not alcoholics then, but they were the ones who always "tied one on" whenever there was an opportunity. The second group were those who were unduly shy and withdrawn, i.e. schizoid, in medical school. The third group, most often found among those who subsequently developed affective disorders, showed evidence of being erratic, labile and rather belligerent in medical school.

Thus, the majority of physicians with subsequent emotional problems passed through medical school relatively uneventfully. Next they went through the early phase in practice when they were not busy enough. This phase was quickly followed by being too busy. The premonitory phase of their illness was characterized by a total failure to

control their practice. Thus, increasingly they worked long hours which of necessity required a decrease in their outside interests, and they developed a very self-destructive pattern with no time for outside interests, for family, for vacations, or for physical exercise. While advising others that they could not keep themselves under constant pressures, that everyone needs time for a break, to recoup their resources, they never took their own advice. Many of these physicians had an inordinate need for prestige and power. They had rather poorly controlled aggressive and hostile drives. They increasingly looked upon themselves as being indispensable to their work and practice. Related to this was the fact that many of them were perfectionists with great concern for detail and inability to delegate responsibility to others.

MORBID PHASE The perfectionist can survive in our society if he does not have too much work to do. However, the combination of perfectionistic concern with detail, an ever-increasing load of responsibilities with no healthy means of escape, eventually means such a huge practice that it cannot be handled adequately, let alone in a perfectionistic fashion. Thus their pattern of existence became increasingly hurried and eventually chaotic. This affected all areas of their lives: their office hours, their sleep, their appointments, their meals, and their family responsibilities. Nothing is more discouraging to a perfectionistic individual than to find his life characterized by disorder, inefficiency and irregularity. Yet, even at this point, the physicians seemed to do nothing to interrupt the pattern and the mounting anxiety. They stayed on the treadmill; they did not delegate work, limit their practice, cut back their activities nor find any healthy way of escape.

Under such conditions inevitably there began to develop fatigue, self-doubts, indecision, even about the ordinary matters of practice. These often developed into depression or escape via drugs, alcohol or a paramour.

A friend of mine stated these physicians suffered from the "M. Deity Syndrome". Actually he said we all suffer

[†]From a paper presented at the 117th Annual Meeting of the Medical Society of Nova Scotia, Halifax, N.S., November 26, 1970.

*Chief of Medical Staff and Assistant Medical Superintendent, The Homewood Sanitarium, Guelph, Ont.

from it. Perhaps the key word in all of this is denial. Their whole behaviour seems to deny that they have any limitations. There seems to be an inordinate need to prove that they can take on all of these responsibilities. When they begin to develop emotional and life problems (illness) again there is denial of illness and unfortunately very often the next step is self-treatment. Self-treatment usually consists of alcohol, sedatives, stimulants and narcotics, often developing in this order over a period of time. Some become psychotic, and some suicidal.

I would summarize by saying with alliteration that the pattern is characterized by disorder and doubt; the course is marked by denial and delay; and the result is deterioration, often compounded by the "demon rum" and drugs. Thus the self-treatment rarely resolves the problems but most typically compounds them.

Physicians and Alcoholism

One might assume there would be a low rate of alcoholism among physicians as they are highly educated both in matters concerning the drug alcohol, and the disease alcoholism. Further, since physicians have such a high rate of drug addiction, one might expect those that were particularly addiction-prone to become addicted to drugs other than alcohol. However, all the studies of emotionally ill physicians indicate high rates of alcoholism. Studies show many physicians begin early to treat their own anxieties with alcohol. A wide range of personalities become alcoholics. A small group of physician-alcoholics have a history of being heavy, sporadic drinkers in medical school. A vast majority were social drinkers in medical school and for 10-25 years after medical school, gradually increasing the frequency of their consumption. The pattern appears to be that of moving from drinking purely on social occasions to drinking in order to meet a particular need. That is, the doctor begins to use it in effect medicinally, to relax, to get to sleep, to stimulate his appetite, paradoxically even to pep him up when fatigued. Gradually lesser and lesser needs evoke the response of drinking until it is a regular daily occurrence. Since alcohol is an addicting substance, tolerance occurs and it requires increased amounts to produce the desired effect, until finally the individual is addicted. At this stage to decrease drinking brings about withdrawal symptoms, so alcohol has created its own need for more alcohol. At this point the doctor either finds that he cannot stop drinking, or the early morning "shakes" or hangovers are beginning to interfere with his practice. It appears that the greater the underlying personality disorder, the greater is the danger of addiction to alcohol. Alcohol initially helps improve the feelings of the particular individual. In general the more marked the personality disorder, the earlier the alcoholism becomes apparent.

All alcoholics have personality and social problems by the time they are admitted to a hospital for alcoholism. At this point, it is often difficult to distinguish which came first, the personal and social problems, or the alcoholism.

There is much evidence that a significant number of physician-alcoholics did not have marked personality disturbances in their early days of social drinking, but they merely drank too much too often over a prolonged period of time.⁹ It is not unusual to find an older physician who drank socially for years without apparent problems, suddenly increase his intake and develop an alcoholic pattern in a matter of months when external problems arose such as a death in the family.

Do the physicians seek treatment at this point? Often, unfortunately the answer is no. They continue to treat themselves now adding sedatives, tranquilizers, stimulants and narcotics to their armamentarium as they face the effects of either their alcoholism or their alcohol withdrawal.

Physicians and Drugs

Physicians who have become addicted to drugs seem to have a *blasé* attitude regarding their personal use of drugs. There is a personal omnipotence about them that says: "This couldn't happen to me". Even after they are addicted they insist that they are not. They rationalize their usage of drugs on the basis that they are not addicted, that they need their sleep, that they need to be sharp for the operating room the next morning; they minimize their intake to themselves and others. Yet in studies all over the world the incidence of narcotic addiction in physicians has been anywhere from 30 to 100 times that of the general population.

Why do physicians use narcotics? Apart from an apparent lack of concern about the danger, one could summarize their reasons by saying they want to feel better. A large proportion feel poorly because of their alcohol addiction and begin by treating their alcoholism with narcotics. Another group has personality, neurotic or depressive problems which they unwisely begin to treat with narcotics. Some in this group feel so poorly because their pattern of existence has permitted them nothing but increasing work, frustration and fatigue. Some physicians begin to use narcotics in an apparently safe fashion treating a physical illness. They continue this use until they are addicted because of the side-effect of euphoria. A story frequently heard is of the physician who has for years used narcotics in an apparently safe fashion to treat his infrequent migraine headaches. Then perhaps when he is passing through one of life's tragedies, he again develops a migraine, uses his narcotic, and to his pleasant surprise the narcotic not only relieves the headache but relieves the agony that is a part of the normal vicissitudes of life. At this point he often begins to use the narcotic for its mood-altering effect rather than for the migraine and an addiction develops.

Something of the magnitude of the problem is conveyed by the fact that in a recent study done at the Veterans' Administration Hospital in Minneapolis, of physicians admitted to the Psychiatric Unit, 69% had a history of alcoholism and 58% had an active drug-dependence at the

time of admission.¹¹ Over a 15-year period at the Menninger Clinic, 65 persons were diagnosed as narcotic addicts.⁶; of that number 30 (46%) were physicians and their average age was 38. Of the 93 physicians hospitalized in the Psychiatric Unit of the Mayo Clinic, 47 had a problem with either alcohol or drug dependence or both.³ In our study, of 93 physicians, 28 had a primary diagnosis of alcoholism and 25 a primary diagnosis of drug addiction at the time of admission.⁷

The doctor-patients attribute the onset of their addiction to overwork, fatigue and physical disease. There was often an element of truth in all three. The doctors seemed to have very high aspirations, and an inability to say 'no' to patients, committees, community work, etc., which did result in overwork and fatigue. This inability to ever say no suggests a denial of limitations. It was as if they could do anything and did not have to take care of themselves. In turn, this suggests a more basic problem might be that their self-esteem is too vulnerable, that a basic insecurity pushes them to constantly proving themselves to themselves and to others. These physicians seem to lack the means of escape from exhaustion found by other physicians who find restoration in satisfactory home relationships, relationships with friends, activities in the community, the Church, recreational activities, and regular vacations. My impression is that the physician who prides himself in never having had a vacation for 'x' number of years is frequently headed for difficulty.

A word is in order regarding the prognosis with treatment for the addicted physician. The usual prognosis for narcotic addiction is very gloomy. However, the evidence is that the prognosis is better for the physician and the earlier he gets into treatment, the better the prognosis. Over one-third do very well, shaking their addiction completely. Another one-third show marked improvement. However, prevention remains the best treatment. While I have emphasized narcotics, equally as many physicians get in difficulties with barbiturates, CNS stimulants, the minor tranquilizers and non-barbiturate sedatives.

Physicians and Suicide

In view of the pattern of denial and delay in recognizing and accepting treatment, there is little wonder that many physicians go on to deterioration and suicide. Recent figures indicate that in the USA there are approximately 100 definite suicides each year by physicians. This represents not only a great deal of personal tragedy for the individuals and their families, but a significant medical manpower statistic. I believe that regardless of diagnosis, the final common denominator preceding suicide is a conviction of hopelessness. Sometimes this hopelessness stems from a chaotic life-pattern compounded by alcohol and drugs, sometimes it is the consequence of severe, depressive thinking. The incidence of suicide among physicians is approximately three times that of the general population, though not much higher than that of dentists and lawyers. The gravity of the situation is indicated by the

fact that in a large American study, 26% of all deaths in physicians in the age group between 25 and 39 were due to suicide.¹² The median age of suiciding physicians is 48. Recent American studies have shown a suicide rate among physicians of approximately 36 per 100,000. The highest rate is among psychiatrists with a rate of approximately 70 per 100,000; the lowest rate is among pediatricians with a rate of approximately 10 per 100,000. Blachly has reported on suicide among physicians, and has noted that 36% have never seen a psychiatrist, and that 60% of suiciding physicians are alcohol and/or drug dependent.^{13,14} He suggests the following suicide profile for physicians: competitive, compulsive, individualistic, ambitious, subject to mood swings, a marked problem with drugs or alcohol; a non-lethal physical disease, a tendency to be an individualist who feels a lack of restraint by society.

Role Strain

The concept of *role strain* is important in looking at physicians' morbidity. By this I do not refer to confusion about one's role; rather, to the situation where one's role is clearly defined — but this role is inherently stressful or in one sense impossible. An architect may feel that he has designed a perfect building. A builder may feel that he has built a perfect structure. Thus there are many occupations in which one can fulfill one's role very adequately. The role of the physician however is to combat (and erase?) disease, suffering and death. Yet the physician is constantly surrounded by his failures in these three areas. The resultant tensions so produced often cause feelings of inadequacy and discouragement. Few occupations carry such constant responsibilities for the well-being and lives of others. Being on 24-hour call, confronting emergencies, crises situations, at the same time trying to keep one's self up-to-date educationally all produces a great deal of strain. In all of these stressful situations the doctor is the one who is supposed to be calm, cool and collected, keeping a stiff upper lip, and not losing his cool. I submit that one cannot do this constantly. One must arrange for periods when one is out from under the stress, when one has one's own needs met. Further, one must develop a philosophy of life that provides meaning, purpose and security in the midst of life's tragedies.

Unfortunately, many doctors deny their dependency needs (i.e. their need to be cared for) so this need, that is common to all, is not met in a healthy fashion. The result is that it is often met in unsatisfactory ways, ways that are essentially escapes — alcohol, drugs, a paramour, and that most irreversible escape of all, suicide.

Present and Future Trends

The medical profession will always provide some stresses and some gratifications. Our basic goals will always remain the same, prevention and treatment of disease, but we are now in a period of rapid social transition in matters concerning delivery and payment for medical services. In our offices and in our hospitals we are becoming increasingly involved with Government, accreditors, a

variety of checks, and we all sometimes feel that we are doing less but documenting it more. We are steadily moving into the period of the Team Approach. To some extent this may help decrease the stress as we share the decision-making process. On the other hand, it decreases some of the gratification. No longer will any one person have quite the satisfaction of feeling "I saved his life". On the team, the unquestioned supremacy of the doctor is being questioned. One nurse discussed the doctor-nurse game, in essence as follows:¹⁴ Older nurses have learned to pamper the physician's ego and never to indicate that what the doctor says might not be correct or that there was a better way of treatment. These rules have existed for a long time, but the game is just about over, and it is time doctors recognized the whistle has been blown, that there is a new breed of nurses on the horizon who are not going to feed the sensitive ego of the physician, nor are they going to consider him infallible. Rather nurses will recognize themselves as an important part of the health team, they will express their ideas whether M.D.'s like it or not. She indicates there is trouble ahead if we don't accept them as equals on the health team. Similar rumblings come from other parts of the health team such as psychologists, sociologists, physiotherapists, computer engineers and occasionally even the patients.

We are going through a period when our image is marred. We are beginning to talk in terms of hiring Public Relations people to help us. As a group we are looked on by society as a wealthy establishment. Unfortunately, most of our involvements with Government that are considered newsworthy seem to relate to questions of fees and costs. As these negotiations become more and more public, I am afraid we often appear more concerned about our income than our patients in the publicity given these discussions. We are living in a period when the major area of our life aired publicly is our annual gross incomes.

If we find less gratification in our public image and reputation, increasingly we will have a need to find gratification elsewhere such as in our relationships in our families.

Conclusions

Obviously factors are at work that result in physicians delaying to seek help for their emotional problems. We must try to understand this better and correct it. Beginning in medical school, I believe psychiatry should be taught so that it imparts an attitude that involves the student looking at himself, his feelings, his relationships, rather than concentrating on just somebody else's psychiatric syndrome. We all have emotional problems, or said another way, problems that affect us emotionally. Beginning in medical school, students should be encouraged to resolve rather than hide their problems.

Departments of Psychiatry are increasingly aware of this, but this involves more than the Department of Psychiatry. As long as other departments (classically the surgeons) make light of psychiatric problems and psychiatric patients, and belittle psychiatrists, the medical student who is the

future M.D. cannot help but feel ashamed of himself if he has any of these kinds of problems within himself. Surgeons would do well to remember that we often joke about those things which frighten us including psychiatrists and mothers-in-law.

The situation also calls for our personal involvement with our colleagues who appear to be experiencing difficulties. We should do all in our power to seek to encourage them to get help. I have seen situations where out of embarrassment, physicians did not approach colleagues who were obviously in difficulty. They regretted their reluctance when tragedy followed.

The physician who examines one of his colleagues and finds most of his problems are emotional does him a dis-service when he covers this factor up with a platitudinous, organic diagnosis such as "pylorospasm". Much more is accomplished by confronting the patient with the problem, often he is anxious to discuss it and only then can it be dealt with appropriately. Partly for this reason I believe the physician-patient is best seen by someone who is not too close to him. Also, he may find it easier to be more direct and open, and he cannot so readily manipulate his attending physician. □

References

1. Mackie, R. E.: Family problems in medical and nursing families. *Brit. J. Med. Psychol.* 40: 33, 1967.
2. Pearson, M. M. and Strecker, E. A.: Physicians as psychiatric patients: private hospital experience. *Am. J. Psychiat.* 116: 915, 1960.
3. Duffy, J. C. and Litin, E. M.: Psychiatric morbidity of physicians. *J. Am. Med. Ass.* 189: 989, 1964.
4. Duffy, J. C. and Litin, E. M.: *The Emotional Health of Physicians*, Springfield, Ill., Charles C. Thomas, 1967.
5. A'Brook, M. F., Hailstone, J. D. and McLauchlan, I.E.J.: Psychiatric illness in the medical profession. *Brit. J. Psychiat.* 113: 1013, 1967.
6. Modlin, H. C. and Montes, A.: Narcotics addiction in physicians. *Am. J. Psychiat.* 121: 358, 1964.
7. Vincent, M. O., Robinson, E. A. and Latt, L.: Physicians as patients: private psychiatric hospital experience. *Canad. Med. Ass. J.* 100: 403, 1969.
8. Vincent, M. O.: Doctor and Mrs.-their mental health. *Canad. Psychiat. Ass. J.* 14: 509, 1969.
9. Vincent, M. O.: Physicians and alcoholism. *Report on Alcohol*, 27(2): Summer 1969.
10. Vincent, M. O.: Trouble in the life of a doctor's wife. *Christian Med. Soc. J.* 19(6): 13, 1967.
11. Simon, W. and Lumby, G. K.: Suicide among physician-patients. *J. Nerv. Ment. Dis.* 147: 105, 1968.
12. DeSole D., Aronson S. and Singer, P.: Suicide and role strain among physicians. Paper presented at Annual Meeting, Amer. Psychiatric Ass., Detroit, Mich., May 8-12, 1967.
13. Blachly, P. H., Osterud, H. T. and Josslin, R.: Suicide in professional groups. *New Eng. J. Med.* 268: 1278, 1963.
14. Blachly, P. H., Disher, W. and Roduner, G.: Suicide by physicians. *Bull. Suicidology*, Nat. Inst. Mental Health, December 1968.
15. Trout, F.: *Medical Post*, May 6, 1969, p. 12.

The Doctor's Marriage and Family[†]

M. O. Vincent, B.A., M.D., C.M., F.R.C.P.(C)*

Guelph, Ont.

Summary: *When marital conflicts arise in a doctor's marriage, the physician's professional role offers him unusual opportunities to avoid solving these conflicts. After defining the main problem areas, related to the work pattern of physicians, illness among doctors' wives is considered. Attention is then turned to helping the doctor's marriage; the author urges the realistic and opportune and conscious scheduling of the doctor's family into his life, and he emphasizes the mutual importance of all members of the doctor's family to the doctor's marriage. The author concludes by giving ten timely tips for tired, tormented therapists.*

In the previous paper, I have noted, the physicians' unhealthy pattern of overwork, his role strain, some of his unsatisfactory means of escape from these, and social changes tending to take the physician off his pedestal.¹ Therefore, it seems that a doctor does need a place where he can be accepted as an ordinary mortal, away from the firing line, where his needs can be met. Home can be this place: if not a heaven, at least a haven. Yet we physicians cannot expect to have our needs met at home unless we in turn are prepared to meet the needs of our wives and children.² One cannot go on forever giving, receiving little or nothing in return. A recent article said in effect that physicians are poor husbands, poor fathers, absent companions, prima donnas and about as useless in bed as an electric blanket when the power is off.³

Problem Areas

All marriages have their problem areas such as communication, companionship, sexual relationships, the defining of roles to reduce smouldering conflicts. Our professional role offers us unusual opportunities to avoid meeting or solving our marital conflicts. Sheer busyness — our internship, residency days, practice days — alone may interfere. This often results in our wives being left alone at critical periods: during pregnancy, at delivery, when the usual postpartum let-down sets in, and with the many difficult decisions that are involved in child-rearing. We deceive ourselves that someday there will be time for closer relationships with our wives and children, and often by the time we are ready, they have grown so far apart from us that they are not interested.

I believe the handling of anger is often a problem for the physician in his marriage. He tends to suppress the anger he often feels toward his patients all day long and may develop

the habit of suppressing all anger, never expressing it at home to resolve the issues that bring about the anger. Alternately he may suppress his anger every place else but displace it all on to his wife and children. Neither is a satisfactory handling of anger.

Again, the physician may carry his professional role over into his home life. This is often a very totalitarian role. In effect, this role is to listen, examine, decide and direct; there is little sharing and no consensus. This may work in many kinds of medical practice. It cannot work for long in our homes. Most wives prefer a loving, compromising companion to an expert adviser. Our problem is compounded because in the past the M.D. has been considered by society as something special. He has a touch of omnipotence. There is often trouble in the marriage with the physician's role if either he or his wife really believe this. If the physician believes it, he does not expect enough from his wife and she soon feels that she is not needed by him. If she believes it, she may expect too much from him, which leads him either to despair in his role of husband, or to retreat to less demanding pursuits and people.

I think our wives have a special problem with our irregularity of hours. This cannot help but make them angry at times. And if our wives become angry with us about being late for dinner or cancelling an engagement, we look so pious and hurt and rationalize so well, that she either feels even more angry and frustrated and always in the wrong, or feels guilty and believes that once again she has made a fool of herself. If her husband was out 'stoned' at the local tavern she could feel much more justified, but the good physician is always out, healing the sick and bringing comfort — so how can his wife be so selfish and demanding?

Our wives have another problem, namely our close relationship with other women, that is an inevitable part of most of our practices. We all know women fall in love with their pastor, their general practitioner, their gynaecologist; only the psychiatrists have overcome this problem. Psychiatrists' patients never fall in love with them, they only

[†]From a paper presented at the 117th Annual Meeting of the Medical Society of Nova Scotia, Nov. 26, 1970.

*Chief of Medical Staff and Assistant Medical Superintendent of the Homewood Sanitarium, Guelph, Ontario.

develop "transference". In social gatherings it can be a bit annoying to be asked: "What's it like to be married to a psychiatrist, a gynaecologist?" The more attractive the female enquirer, the more prone the physician's wife is to feel like telling her that it is none of her business. One doctor's wife raised the question as to why at every social gathering, the most beautiful women approach her and say "I'm your husband's patient", while she says her husband always sends her to internists that look as if they should have retired years ago. Dangerous situations can develop either if there is excessive and unreasonable jealousy on the part of the wife, usually based on her own insecurity; or if the physician-husband gives good reasons for his wife's jealousy. It is well, if perhaps humbling, for every physician to remember that whether he is tall or short, light or dark, fat or skinny, handsome or ugly, whether he has big ears or no ears, that sooner or later some women patients will fall in love with him simply because of his role and his image, and because of their needs. Most women fall in love with their doctor's because of their needs, not because of their doctor's assets, but doctors hate to believe that. We do not help them resolve their problems by reciprocating their erotic love, but perhaps only reveal some of our own problems and needs.

Illness in Doctors' Wives

Fifty physicians' wives were studied at the Institute of Living in Connecticut.^{4,5} It was agreed by both the patients and their attending psychiatrists that in a significant number of women, the absence of their husband from their home and from significant relationships was an important precipitating factor in the illness. Poor sexual adjustment was common. A major problem in the marriage was the gap between the wives' expectations for their marriage and the reality of their marriage. The expectations centered around conscious and unconscious feelings of the public at large that physicians are caring, need-meeting people. Any wife, especially a doctor's wife, expects that her dependency needs will be met. Many doctors' wives find themselves greatly disillusioned. Most disillusioned of all is usually she whose husband is always available to everyone else in the community; he is the community's greatest need-meeter, but the community's poorest need-meeter at home. In short, the wife does not get the warm, available, fatherly husband she expected.

It is generally accepted that loss of a significant relationship frequently precedes depression. Emotional distance between a husband and wife is experienced by the wife as a loss. Some wives develop their symptoms at the point that their husbands become sufficiently affluent to hire an office nurse and their wives stopped working at the office. Evans found that the physicians' wives symptoms fell into three groups: (i) Depression; (ii) somatization; and (iii) alcohol and drug abuse.⁴

Somatization means that the wife develops a variety of physical complaints. These are, in effect, a call for attention from her husband. This seems to be the only way she can

get his attention, by coming to him with the same kinds of complaints that his patients do. Unfortunately, often the physician on hearing the complaint answers it in his professional role, sending his wife to the top drawer for a pill, rather than answering it in a husbandly role, meeting the underlying need. The wife's hostility and despair are often expressed in more symptoms and nothing is more frustrating to the doctor than symptoms, symptoms that he cannot relieve.

The readiness of doctors to prescribe potentially dangerous drugs for their wives, and failure to interfere with their excessive drinking may well reflect some awareness of guilt on the part of the physician for the fact that he is not really meeting the needs that underly the symptoms.

The doctor with problems at home may find a very nice 'out', that does not resolve his marriage problems. He finds a place where he can be more comfortable, that is, with his patients, with his office staff, with his nurses at the hospital. Here he will be on a pedestal. The more time he spends at the office or making rounds at the hospital, the higher the pedestal will be and the more effectively he avoids his deteriorating home situation. He becomes so comfortable in these roles that he avoids the conflicts inherent in the role of husband and father. Personally, I find the role of the "omnipotent one" quite incompatible with life at home with my wife and children. Thus, the doctor's professional role offers him an unusual opportunity for dodging the solution of marital problems. The role of the physician may be both a shield and a weapon in marital conflicts.

The wife of a psychiatrist has a particular problem as illustrated in the following poem:

LAMENT OF THE WIFE OF A PSYCHOANALYST

I never get mad: I get hostile;
I never feel sad: I'm depressed.
If I sew or I knit and enjoy it a bit,
I'm not handy — I'm merely obsessed.

I never regret — I feel guilty,
And if I should vacuum the hall,
Wash the woodwork and such, and not mind it too much,
Am I tidy? Compulsive is all.

If I can't choose a hat I have conflicts,
With ambivalent feelings toward net,
I never get worried or nervous or hurried:
Anxiety — that's what I get.

If I'm happy, I must be euphoric;
If I go to the Stork Club or Ritz
And have a good time making puns or a rhyme,
I'm a manic, or maybe a schiz.

If I tell you you're right, I'm submissive,
Repressing aggressiveness, too,
And when I disagree, I'm defensive, you see,
And projecting my symptoms on you.

I love you, but that's just transference
With Oedipus rearing his head.
My breathing asthmatic is psychosomatic,
A fear of exclaiming "Drop dead!"

I'm not lonely, I'm simply dependent.
My dog has no fleas, just a tic.
So if I seem a cad, never mind, just be glad
That I'm not a stinker — I'm sick.

— Sonya Saroyan

Helping the Doctor's Marriage

We must start by accepting the fact that when couples marry, despite mutual love, a common commitment and philosophy, their marriages can go astray. Marriage is a life work which some scarcely begin and only a minority ever fully achieve. We must not deceive ourselves into thinking that we are immune from having to work at our marriages. The successful marriage is the result of studied effort and discipline.

"Intimate contact is that close contact between two individuals in which they reveal themselves in all their weakness, without fear. It is a relationship in which the barriers which normally surround the self are down. It is the relationship which characterizes the best marriages, and all true friendships. We often call it love.

Two essential preconditions without which such relationships cannot mature:

- i. The people concerned must see each other very often, almost every day, though not necessarily for very long at a time.
- ii. They must see each other under informal conditions, without the special overlay of role or situation which they usually wear in public.

If two people do sometimes talk about the ultimate meaning of their lives, then we are fairly safe in calling their contact an intimate contact."⁶

Three important aspects of marriage are companionship, communication and the sexual relationship. Usually while the companionship and communication are satisfactory, the sexual relationship is satisfactory. However, when love, concern, respect, companionship and communication disappear, a satisfactory sexual relationship does not survive long. The problem is that all these aspects of marriage require *time* together, so that we can learn the needs of our partners, for only then can we communicate our love to our spouses in a way that meets their needs. We have to learn to communicate love to our spouses in a manner that is understood as being love by them. In this, each marriage is unique.

But time is precisely what the doctor complains he lacks. However, if I am correct that with the physician's changing role and status there will be less grandiose admiration of physicians outside the home, the doctor may well need his home even more in the future than he has in the past. *Therefore, he must make time.* Many physicians start out

with good intentions of spending time with their wives and families, but each activity planned with wife and family is a "routine family matter". Repeatedly the routine gets pushed out by the urgent problems that come up in the medical practice. After many years of marriage the physician looks back to see that the urgencies of practice have always replaced the routines of the marriage and the family until suddenly his whole family life is either an emergency or a catastrophe.

How is this to be resolved? It is not resolved by saying that the practice always comes first, for then marriage will be a failure. It is not resolved by saying the family will always come first, for then the doctor will fail to be a good physician and to meet the needs of his patients. I believe that many physicians try to resolve it by saying wife and family are equally important to his practice. This does not resolve it either, but creates a constant frustration and conflict with the urgent always replacing the routine. It appears to me that it is resolved only by saying that there are certain times that practice is first and certain other times that wife and family are first. Then life must be arranged accordingly. If we do not take this step our families get squeezed out of our lives, by the things in our lives that are either scheduled or are emergencies. Therefore, we must schedule our wives and families into our lives. The physician must realize his importance to his wife and family and their importance to his own well-being.

Sometimes the consequence is divorce as indicated in a portion of a letter received by me from a wife of a very competent and dedicated physician:

"There is no way to describe what its like to be a married woman for 27 years and to never have had a marriage or a husband, simply a man who came and went as he wished; completely impersonal, completely clinical; never responding as another human being would do if any love at all were present. I feel now that I have finally buried all my emotions related to him and I can never, ever go through that procedure again . . . Thank you again. I wish you every success with "X". He needs help. I've already said everything I can say. I only wish things were different, that I had some happy memories to rebuild on, but I don't. No one is more sorry than I am."

This husband is not mentally ill. His present marital situation is a result of having always put practice ahead of marriage and family. Now his marriage is breaking, his wife is depressed and he wishes his priorities in life had been different.

Conclusions

Emotional illness in the physician or his wife is often the end result of the personal vulnerabilities brought to that marriage and the pressures, both marital and professional, within the marriage. Marriage initiates a new set of relationships which may protect the individuals emotionally if they meet one another's needs, or may pour salt into the vulnerable wounds if needs are not met. We must be

prepared to look at ourselves realistically, be prepared to modify those factors which we can, which if left unchecked would precipitate personal disease or marital breakdown. If we cannot break the chain of events, we should have the courage to seek professional help.

A concluding word to my fellow physicians: H. L. Mencken has said there is always a well known solution to every human problem — neat, plausible and wrong. Nonetheless, I would like to suggest:

TEN TIMELY TIPS FOR TIRED, TORMENTED THERAPISTS

- 1) Recognize and admit your needs. Know thyself!
- 2) Establish a hierarchy of priorities in your life. Reassess them periodically.
- 3) Provide for relaxation and vacations.
- 4) Avoid drinking because you "need" one.
- 5) Never prescribe narcotics for yourself.
- 6) Sedatives and stimulants are to be handled with care.
- 7) You are not indispensable: your wife may be.

- 8) Wives have needs too. If the needs are medical, send her to someone else.
- 9) Children are chips off the old block. Old blocks must be present to be chipped.
- 10) Seek help when necessary: pride goeth before the fall. □

References

1. **Vincent, M. O.:** The doctor's life and practice. *N.S. Med. Bull.* 50: 139, 1971.
2. **Vincent, M. O.:** Trouble in the life of a doctor's wife. *Christian Med. Soc. J.* 19(6): 13, 1967.
3. **Robbins, J. and J.:** "Never marry a doctor". *McCalls Magazine*, September 1969.
4. **Evans, J. L.:** Psychiatric illness in the physician's wife, *Am. J. Psychiat.* 122: 159, 1965.
5. **Lewis, J. M.:** The doctor and his marriage. *Texas State J. Med.* 61: 615, 1965.
6. **Ewald, W. R. (ed.):** "The city as mechanism for sustaining human contact," in *Environment for Man*, Indiana, Indiana Univ. Press, 1967.

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Subhuman Primates and Studies of Human Development[†]

George R. Kerr, M.D.,*
Madison, Wisconsin

Summary: *The study of the biological and behavioural development of children is a field which contains many accepted but as yet unchallenged hypotheses. The author, through the study of the rhesus monkey, challenges three of these hypotheses: the placenta as a protective device, the need for love and emotional stimulation for physical growth, and the ease with which malnourished children may be recognized. Observations in monkeys suggest that the placenta does not selectively protect the fetus from maternal biochemical abnormalities, that food rather than love is the main requirement for physical growth, and that malnourishment is likely reflected in small stature. The author recognizes that such conclusions, derived from simian study, may be as invalid as the ones rejected, but they are at least data, not impressions; they do add more pieces to the jigsaw of our understanding of human developmental biology.*

With most of the members of the class of 1955, I have shared the alternating moments of pride, anxiety, and despair as our children matured through their periods of intrauterine life, the crises of birth, the near-malignant growth of the first year of life, and the more leisurely progression through the physical, educational, and social challenges of the remainder of childhood. And with most I have been amazed at the rapidity with which these processes of growth occurred: Growing in length from 20 to 30 inches in the first year of life — a 50% increase! Accumulating the new cells, new proteins, and new enzymes which are reflected in this physical growth. And probably even more important, learning the meaning of symbols, and speech, and the rudiments of acceptable social behaviour within the same few months.

On a mathematical basis these rates of growth and development are truly spectacular, yet we accept them without the respect and honour which we would confer upon any machine which could perform even a fraction of these functions. The main reason for this lack of appreciation is that *all* of our children grow this way; and things which occur commonly are not particularly exciting. We should never forget that common facets of biology, when studied carefully, can be just as exciting as the most exotic scientific discovery.

[†]From the Department of Pediatrics, University of Wisconsin, and Wisconsin Regional Private Research Centre. Supported in part by grant FR 00167 from the National Institutes of Health to the Wisconsin Regional Primate Research Center.

*Presently of Department of Nutrition, Harvard University, Boston, Mass.

Unchallenged Hypotheses

All fields of science contain a certain amount of "knowledge" derived from hypotheses which are so reasonable and so logical that they have never been challenged. None contain more of these accepted but untested hypotheses than do the fields of the biological and behavioral development of children. But how can these hypotheses be tested? At all times this would be difficult by studying children; at most times it would be prohibited by moral or procedural considerations. As a result most investigators involved in the study of developmental biology have utilized laboratory animals in the hope that their data may also apply to man.

The animal which I have chosen for developmental studies is the rhesus monkey. Its rates of fetal and postnatal physical development are remarkably similar to those of man; the rates of learning and social behaviour can be quantified; and this monkey's society is based on family units much like ours. The roles of mother, father and children are clearly defined and the maturational processes suggest that they can be investigated with some assurance that the resulting data may be relevant to human processes. With definition of the normal developmental patterns it becomes possible to design experiments to improve understanding of the growth and development of our children, and also to challenge some of the accepted hypotheses of child development to see if they are truly valid.

Is the Placenta a Protective Device?

If any process is to modify the normal patterns of growth and development it should be most effective when

applied early in life. Because women dying of malignancy or malnutrition have given birth to relatively normal infants, it has been easy to accept a hypothesis that the primate placenta protects the fetus from maternal biochemical abnormalities. The first indication that this hypothesis might not be entirely true arose when it was noted that women with phenylketonuria (PKU) gave birth to children who were more retarded than the mother even though they had not inherited the biochemical disorder. This suggested that, in some way, the increased maternal level of phenylalanine had crossed the placenta and damaged the fetal brain when it was growing at its maximal rate. This possibility obviously could not be tested in people, but as the placental mechanisms governing the maternal and fetal levels of circulating amino acids were similar in rhesus monkeys and humans, it could be investigated quite easily in the subhuman species.

Large amounts of phenylalanine were added to the normal diet of pregnant monkeys and the level in the mother's blood became markedly elevated; at full-term pregnancy the levels in the maternal and fetal circulations were compared. In normal pregnancies, the fetal level of each amino acid is about twice the level found in maternal blood. At the conclusion of this experiment it was apparent that the placental mechanisms had continued their normal function regardless of the abnormal level in maternal blood. When studied subsequently all infants born from these pregnancies showed significant and permanent learning disabilities: a form of mental retardation caused by a maternal biochemical disorder which, because of a normal placental transport process mechanism, had resulted in an even greater disorder in the fetus.¹

The intriguing aspect is that the damage was not *in spite* of a normal placenta but *because* of a normal placenta, doing its regular function but doing harm in the process. I must conclude that the hypothesis which attributes to the primate placenta an ability to protect the fetus from maternal biochemical abnormalities is simply not true. The placenta performs its function in delivering the amino acids needed for fetal protein synthesis in the manner of a superbly efficient computer, but without any true concern for the fetus. It cannot identify "good" from "bad", or "too much" from "too little."

PKU is a rare disorder but the same transport mechanism works for calcium, iron, most other minerals, the water soluble vitamins, and certain medications. It must be of concern that most of the medications which are taken during human pregnancy have not been studied with regard to their fetal effect. Are they harmful? Probably not, but we have no way to identify subtle damage.

So what medications should we prescribe for a pregnant woman? Those which she needs certainly, but "routine" medications for all pregnancies? Hopefully not.

Nutrition and Physical Growth

A second hypothesis which is generally accepted is that children need love, affection, and emotional stimulation in

order to grow in physical as well as social dimensions. This concept was introduced early in the present century in an attempt to explain the growth failure and mortality statistics of children reared in orphanages. Because it was not possible to explain these statistics on a biological basis it was assumed that their failure to thrive was due to a lack of "mother love." And the short stature so frequently seen in children from deprived environments supports this hypothesis. But for years we have assumed that these children ate normally, and this is hard to explain. If adequate calories were ingested and were not lost by hyperactivity or some malabsorptive process, at least the children should be *fat* even if they did not grow in length. Disconcertingly, the majority are *thin*. And we are now faced with a challenge to one of the fundamental laws of nature: that dealing with the conservation of energy.

We know a great deal about the physical growth of infant monkeys, and the hypothesis which stated that lack of social stimulation can result in lack of physical growth could easily be tested. Newborn infant monkeys were placed in cages designed to prevent any type of social stimulation. Constant light, constant sound, constant heat, and constant food were available, but for periods of up to a year they did not receive sight or sound of any other living individual. At the conclusion of the experiment it was apparent that a behavioral disaster had occurred. The animals were, thereafter, permanently unable to perform the usual social functions with their peers. All were perfectly normal in physical dimensions, however, and I suppose that this means that our second hypothesis is also incorrect. Behavioral stimulation is obviously essential for behavioral growth, but *food*, not love, is the main requirement for physical growth.²

The Significance of Short Stature

And in the area of food we come to the main problem and cause of death of the world's children. We have had our hearts broken by pictures of the children from Biafra and Pakistan. And as a result of these pictures we have developed a third reasonable hypothesis, that malnourished children should be easily recognizable. Because we have defined the normal physical and biochemical growth of infant rhesus monkeys fed an exact dietary we are in a position to challenge this hypothesis by selectively altering the diet and observing any subsequent effect on growth.

A diet with only one-quarter of the normal protein content, but made isocaloric with lactose, was fed to a group of infant monkeys. Although no change in appetite occurred, a marked failure of growth was apparent during the six months of the experiment — about the equivalent of two or three years of a child's life. And with refeeding a marked "catch-up" growth occurred to the point that two years later those which lived were indistinguishable from their controls. However, despite meticulous 24-hour care, 50% of these animals did not live: surely the most extreme form of protein malnutrition.³

My main surprise was that the animals which did not die did not look particularly malnourished — just small. And this is also quite reasonable. If linear growth does not occur, failure to gain in weight will not result in an appearance of being *thin*; the individual will simply look smaller than appropriate for his age.

In the field of pediatric endocrinology, short stature is probably the most common presenting complaint. How often is it due to malnutrition in our society of affluence? Now that I am looking for it, I believe it to be one of the more common causes for growth failure. But these children are not identified by obvious signs of malnutrition, poor hair growth, "pot" bellies, reduced muscle mass, or wasted buttocks. The main physical finding is simply small stature in otherwise healthy-looking children. So my third hypothesis is also shot down. Undernourished children in our society usually do not demonstrate any of the textbook signs of severe malnutrition, short stature being the only sign of the underlying nutritional disturbance.

Are these observations in monkeys relevant to the development of children? Perhaps not. My new hypotheses may be as invalid as I believe the old ones to be. But at least they have been derived from data, not impressions or "reasonable" hypotheses. And at least they add a few more

pieces to the jigsaw of our understanding of human developmental biology. With the accumulation of enough such pieces the true final picture will become apparent. But if we are ever to understand the development of our children, we must reject the concept that things which are "common" or "normal" do not need to be investigated. When I see an infant monkey sucking his thumb and rubbing a piece of terry cloth around his eye or his ear, it constantly gives me assurance that a great amount of information regarding the "normal" processes of development in our children can be obtained by the appropriate studies being performed in some of our distant relatives. □

References

1. Kerr, G. R., Chamove, A. S., Harlow, H. F., and Waisman, H. A.: Fetal PKU: the effect of maternal hyperphenylalaninemia during pregnancy in the rhesus monkey (*M. mulatta*). *Pediatrics* 42: 27, 1968.
2. Kerr, G. R., Chamove, A. S., and Harlow, H. F.: Environmental deprivation: its effect on the physical growth of infant monkeys. *J. Pediatrics*, 75: 833, 1969.
3. Kerr, G. R., Allen, J. R., Scheffler, G., and Waisman, H. A.: Malnutrition studies in the rhesus monkey (*M. mulatta*). I. The effect on physical growth. *Am. J. Clin. Nutr.* 23: 739, 1970.



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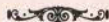
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Presidential Vaedictory Address, 1971

J. F. L. Woodbury, M.D.

Halifax, N.S.

"I want to discuss two topics — first, the Role of the Medical Society in Relation to Professional Standards and Behaviour — and second, Health Care Delivery.

Several times during the past year members of the Society have expressed to me opinions seemingly based on the concept that the Society exists, at least in large part, as an organization for the protection of its members. The public has also taken this view of organized medicine and it is for this reason that I feel that I must restate *the aims and objects of the Medical Society* of Nova Scotia. Briefly stated they include the promotion of health; the prevention of disease; the improvement of medical services, however rendered; the maintenance of the integrity and honour of the medical profession; the performance of such other lawful things as are incidental or conducive to the welfare of the public, and of the medical and allied professions, and the promotion of harmony and unity of purpose between the medical profession and the various bodies assuming economic responsibility for the care of sick or injured persons. Surely every one of us should be working toward the same objectives that are the officially stated goals of the Medical Society.

Occasionally, a physician appears to us to be unprofessional, incompetent, ill or dishonest. Our own principles and the Society's objectives then demand that we "stand and be counted" in defence of the public interest. It is the duty of the Society to study this situation, to reach an opinion about the doctor's behaviour and to act in accord with, first, the public interest, and, second, the integrity of the medical profession. The Society must back those who conform to the standards of ethical medical practice and discipline those who do not. Unfortunately, in the matter of discipline the Society's authority is severely restricted. At the most, a member can be expelled. We have no recourse against those doctors who are not members of our organization. It is clear that the Society must seek stronger disciplinary power for itself and for the Provincial Medical Board, in the interest of protection of the public and of the public's good opinion of the profession.

* * * *

Now let us consider *the past, present and future of health care delivery*. In North America the training of physicians was primarily by apprenticeship. There were "diploma mills", private medical schools with very bad facilities which turned out doctors who took the poor quality medical training that they had to the care of the sick and wounded. In 1910 the Flexner Report exposed the terrible conditions in the medical schools and the universities commenced to set up faculties of medicine. These were patterned mainly upon the John Hopkins Medical School where scientific methods were being taught. This set the stage for medical research and for the production of academically orientated medical teachers. Now we are accused of having become too scientifically orientated and insufficiently concerned about the needs of people.

Most of us embarked upon a medical career, partly at least, because of our concern for the welfare of our fellow human beings. A few were attracted to caring for the health of the population *en masse*. More of us were concerned with the lot of the individual. Were we too little concerned with the health of the disadvantaged? If so, it is my contention that the difficulty in caring for the disadvantaged lay in the field of communication. Those who shared our educational advantages were easier for us to understand and they understood us more easily. Consequently, we could prescribe for them measures which required considerable co-operation and expect that the co-operation would usually be forthcoming. Such

patients shared our understanding that good health is a privilege that must be won.

There are forms of health care, mainly preventive, which can be forced upon the public in its own interest — immunization, clean food and clean water for example. But one can't enforce advice to exercise, to rest, to behave rationally, to submit to surgery or to take drugs as prescribed. So, in general, the physician gains a sense of achievement more often or more easily by extending his services to those who will work for the privilege of good health. Personal involvement with individuals who are ill and need help has been the source of some of our greatest professional satisfaction. Our problem has been to effect reconciliation between the practice of the art of healing, the providing of medical attention for the many in need of it, the rigors of scientific investigation and the business of earning a living.

Despite the difficulty of communication, doctors have always been concerned that medical care should be available to all and have extended to the poor the best care of which they were capable, often at great personal sacrifice. Today, however, we are challenged to face a sociological phenomenon. The disadvantaged members of our society have learned to expect more of the medical profession, more effectiveness, and more availability. Their elected representatives demand this performance on behalf of their constituents. The medical profession wants to excel in health care delivery and we in common with others in the field of health care, including government, must decide how to produce the combination of effectiveness with economy that will create a truly efficient system.

The medical profession has by no means been responsible for all the delays in producing a satisfactory delivery system for health care. For many years hospital medical staffs have been pointing out that ambulatory outpatient care, even in our largest and best institutions, lacks organization and facilities. However, among the hospital boards, commissions, and governments procrastination has blocked appropriate developments. Further, there has been deplorable delay in the provision of facilities for rehabilitation. In 1954 a council of governmental and voluntary health agencies as well as interested individuals was formed. By 1958 representations were being made to government and the Hospital Insurance Commission to the effect that the temporary quarters in which the Rehabilitation Centre was housed were utterly inadequate. Yet there has been delay after delay so that the Rehabilitation Centre still operates in surroundings so out of date and crowded that the tremendous morale of the staff of the institution should be an inspiration to all of us.

At the urging of the Rehabilitation Council, the government subsidized a Brace and Appliance Centre which provided prosthetic devices including braces, modified shoes and many other items for crippled children, paraplegics, arthritic patients and others at very low cost to the individual. This Brace and Appliance Centre has recently changed its name to Orthopedic Brace Shop and it has been experiencing in the last couple of years a gradual decrease in governmental subsidy. Braces and modifications are becoming more expensive for the individual and I believe that government should seriously consider whether it is appropriate to allow further escalation of the cost to the patient. I am concerned that we of the medical profession have failed to communicate the sense of urgency that most of us feel about the provision of such facilities for the delivery of health care as I have been discussing.

It was the rising price of health care which provided the impetus to introduce insurance against the costs of hospitalization and later against the costs of medical services. The introduction of these programs, however, particularly since coverage was made universal,

removed some of the brakes on the escalation of health care costs. Governments today are alarmed by the rate of increase.

The delivery of health care by the medical profession has been criticized for lacking comprehensiveness, poor distribution, and (based on the performance of simple tasks by the highly trained professionals) inefficiency. Are we guilty, not guilty, or should the verdict be "not proven"?

We have utilized team care and superior equipment in dealing with our patients admitted to hospital, but for the most part we have kept primary medical care on a simple basis. The reasons for keeping primary care uncomplicated have been our appreciation, which we believe our patients share, of the one to one relationship and also our observation about the economics of adding additional team members. Health professionals in the field of nursing, social work, physiotherapy, laboratory technology and others have been made available to us in hospital and we have appreciated their work. We have not always given them the opportunity to make the maximum contribution of which they were capable and perhaps we have sometimes asked their opinion and appeared to disregard it. We are told that the way to make things happen is to share decisions not just collect opinions, and this we must learn to do. The competence of the allied health professionals has been demonstrated to us repeatedly. We should respect them and welcome them as full-fledged members of the health care team as a matter of right rather than of privilege. We should realize that their roles complement our own and are not competitive. I believe that enlightened doctors now recognize this, particularly in the hospital setting.

While we have been rubbing shoulders with allied professionals in the large institutions, nurses, social workers, physiotherapists and others have been fighting for recognition on the primary care team. Community and national leaders have seen their value and have made their services available for primary care through the voluntary and governmental health organizations such as the V.O.N., the Department of Welfare, the Children's Aid Society, the Arthritis Society, and many others. Not all of us have used their services well but some have. Since the various health professionals had many different origins, communication was difficult and no doubt the care was less efficient than would have been the case if all the elements of the health care team had been geographically contiguous.

Speaking at a recent conference on health manpower, Dr. John Evans, Dean of Medicine and Vice-President for Health Sciences at MacMaster University, said "all the health professions and specialties must be prepared in the near future to face intensified scrutiny, not only of the quality of practice, but also of the effectiveness with which they use their professional skills. Since both their education and their services are almost completely financed from public funds, it becomes a matter of public accountability that highly trained health professionals use their time and talents to maximum advantage and delegate to others those tasks which do not require their type of sophistication of training. For many years hospital based nurses have spent a large portion of their time in clerical and administrative duties at the expense of working with patients in the manner for which they were trained. In the field of mental health, obstetrics, paediatrics and primary medical care much of what is now being done by physicians could be done as well or better by a nurse with some additional training. Indeed, the Joint Council of National Pediatrics Societies in U.S.A. has estimated that 75% of a paediatrician's tasks now performed by a physician could be done by a properly trained child health assistant. By progressive re-evaluation of roles, delegation of tasks to other professions and technologies, and revision of the education programs for the professions concerned, we should evolve progressively towards a system where the professional resources are used in accord with the educational investment."¹

Some advise setting up regional health boards akin to school boards and accountable to the public for the quality of health care.

Units for health care delivery are expected to contain appropriate elements of multiple health professions. It is pointed out that persons who have had little or no formal training can make an important contribution to health care as has been demonstrated by crisis centres. In such a setting the physician is likely to lose some of the identification with the patient which has been important to both. We are told that the physician's skills are to be reserved for solving complex problems. But if he loses touch with his patient he is in danger of becoming a technician because the individuals who have contact with the patient will edit the information they provide to the physician depending upon their educational bias.

Such multi-service health centres have been tried and have sometimes appeared to improve upon the methods traditional in the locality. I do not know yet, however, that they have been found more economical. Some politicians are so keen on the idea of community health centres that they would destroy current systems of health care delivery and paternalistically provide them located strategically throughout their jurisdictions. Aware of the shortcomings of the fee-for-service method of remunerating physicians, some politicians would opt to impose salaries on doctors forthwith. This would eliminate the problems involved in paying for the services of the various members of health teams by several different means. Should doctors be put on salary? I'll return to that question.

It may be that many parts of a physician's present activities can be delegated to professionals who have had less prolonged education or training. Time may prove that health care delivery can thus be made more efficient. It may be demonstrated that economies can be effected by taking this course of action, but it has not yet been proven in Nova Scotia for Nova Scotian communities. Let us consider, let us study, let us experiment, but preserve us from sabotage of the whole framework of medical practice until we can see clearly the implications of any changes that may be advocated.

There are certain statements that are repeated so often that we are in danger of believing them without examining the facts surrounding them. One is that the ratio of physicians to population has lost much of its importance because it is the ratio of health professionals to population that matters. This can be true only IF ONE ASSUMES THAT EQUALLY GOOD HEALTH CARE CAN BE DELIVERED THROUGH LESSER TRAINED PERSONNEL AND MORE ECONOMICALLY. As I just said, "not proven"! Yet this is one of the arguments advanced for constraining the numbers of medical schools or the numbers of students to be permitted medical education. Canada has at present many young people eager for medical education and well qualified for it who cannot gain admission to our medical schools. This is a deplorable situation for a country which despite the current slack economy is one of the wealthiest. Even more shocking is the fact that for four years Canada has been licensing more physicians educated in other countries than graduates of Canadian medical schools!

I am more than grateful for the help we are being given by the immigrant physicians. My own specialty has been FORTIFIED by trainees from other lands and some fit into our scheme of health care magnificently. I have high regard for them personally. But I must agree with and quote again Dr. John Evans who said recently "When considering manpower policies, we must not lose sight of the fact that objectives of many provincial manpower programs may be undermined by a massive immigration of health personnel trained in other jurisdictions with characteristics antithetic to the guidelines for production from domestic educational programs. For example it is futile for a province to try to influence medical manpower distribution according to specialty and geographic location by placing constraints on the type of physician produced in our medical schools when the majority of new registrants in nearly all provinces each year have taken their medical education outside the province. Furthermore, it seems doubly unjust to drain skilled manpower from other less well developed countries and at the same time deny the career opportunity in medicine to the abundant number of well qualified young Canadians who currently seek entry to our programs of medical education. I believe the Federal

Government and the Provinces should undertake to encourage an expansion of medical school enrollment to a self-sufficient level for Canada without immigration and, as domestic output increases, phase out immigration with selective rejection or quotas on the specialties of medical training where constraints are also being applied to domestic production. The guidelines should be prepared by manpower committees not dominated by the medical profession and the mechanisms for limiting immigration might be selective restriction of new registration through the provincial colleges of physicians and surgeons. It may be tempting for governments to promote increased domestic production and at the same time allow unlimited immigration of physicians, but is worth noting the economic consequences, since the number of doctors (whether on fee for service or salary) is one of the prime determinants of total cost in any health care system."¹

I promised to return to some questions which I asked earlier. Should health centres for team care immediately be substituted for today's practices, and should alternatives to fee for service remuneration be put into effect now throughout Nova Scotia? There can be no doubt that governments are encouraging us to experiment in these fields. There can be no doubt either that our choice is whether to lead or to be dragged into other working and fiscal arrangements. The difficulty of fitting together a jigsaw puzzle resides chiefly in the rigidity of its pieces. We as a profession are accused of being defensive of our monopoly of the practice of medicine. Probably today's graduates have attitudes very different from those of us who reached adolescence during the great depression. Those were days when doctors competed almost savagely for patients and for salaried positions. Today some overworked family practitioner scarcely mind losing a patient to another and sometimes are downright grateful. But it seems to me that we have lagged more in co-operating with each other than have for example our fellow professionals in the practice of law. How slow we have been to organize partnerships and group practices! What inertia we have shown over setting up systems of rotation so that a patient ill at night can depend on finding some doctor available in the community.

I believe we must experiment with alternatives. To learn from these experiments we must, if possible, apply measurements to the conditions existing before we make a change; then alter our practice and after that examine and measure again to determine whether things have been made better or worse, more expensive or cheaper.

We must consider whether remuneration by fee for service, with its built-in incentives to various activities is the best method for paying doctors. We should contrast what happens to patients when doctors are paid salaries and when fees are available. We should study the effects of income ceilings and of combinations of salaries with fee for service, always considering how our patients fare ahead of how we get along ourselves. Probably we can be trusted to remember our own financial welfare.

Those among us who are fearful of change or innovation should be reassured that we wish to demonstrate effectiveness and efficiency before we discard our present methods. We want to avoid throwing the baby out with the bath water.

As the senior profession in health care, we have a profound obligation to lead the way. There is abundant evidence that we are prepared to do so. I am happy to point out that a number of studies of health care delivery are underway and also several pilot projects are now in effect or about to be put into effect by the medical profession. Let me mention some of these:

1. Initiated by the Cape Breton branch a study is in progress employing a firm of management consultants to work with a group of interested citizens of the area to survey the present health care delivery situation in Cape Breton Island and to make recommendations for the future. This study is supported by a federal research grant administered by the Medical Society of Nova Scotia.

2. The town of Pictou had a shortage of medical practitioners. The Hospital Board built a community health centre which

immediately attracted four young physicians to join with a medical consultant in a team practice, which is being well accepted by the townspeople. These four physicians (one is taking further training) are backed up by the talents of five staff members, including a registered nurse and an office manager. The services of the local Victorian Order Nurse are utilized in patient's homes and the group seeks to attach a social worker, and a physiotherapist. Note that this project was shared between the chosen representatives of the consumers, that is the hospital board members, and the doctors. The building is to be purchased by the physicians through monthly payments of "rent".

3. A study by the Department of Preventive Medicine of Dalhousie University demonstrated that the Emergency Department of the Victoria General Hospital was being increasingly overburdened. Much of the load consisted of supplying primary non-emergency medical care to residents in the immediate environs of the hospital. The use of the facilities by residents of northeast Halifax was greater than that by other areas when the distance from the hospital was taken into account. The Medical Society of Nova Scotia considered that the people of the north-end of Halifax had unmet needs for health care and explored how the services could be made available. After several discussions with doctors currently practicing in the north-east end, contact was established with the north-end community health association which represented the citizens. These talks resulted in shared decisions to try to provide a stop gap health service by volunteer physicians who would participate medically in a multi-service complex tailored to the needs of its community. The physicians of the north-east end supported and participated in this activity and an appeal to the Halifax branch yielded some two dozen other volunteers who have been operating the Clinic. Parenthetically I may say that the efforts of medical students were invaluable in creating liaisons with the residents. The Halifax Welfare Department, the Nova Scotia Family Planning Association, Dalhousie Legal Aid, the Department of Public Health and the Government of Nova Scotia participate in the complex and we have objective evidence of its acceptance and value. We expect that, in some form, it will become a fixture. We believe that the success of the venture is due to the participation of the community, congenial surroundings, working hours convenient for consumers of health service and team work with the public health nurses and other elements of the complex.

4. A proposal has been put to the Government of Nova Scotia by a non-profit community medical building society of Lunenburg asking guarantees for subsidization of construction and if necessary of operation of a building on the grounds of the hospital to be rented by doctors. These physicians hope to integrate public health personnel involved in prenatal care, mental health, addiction care, blood donor clinics, dental care and other health professionals.

5. In Digby doctors have purchased land immediately adjacent to the hospital and have put up an office building providing significantly more space than would be required for traditional medical practice with the same sort of objective of including allied health professional in team care.

All these ventures have in common the identification of an area where something needed to be done followed by study to determine how the need could be met. We are fortunate that we don't have to try to satisfy these needs alone. We can turn to the communities for help, we can turn to government for help we can call upon other professionals in the health field. Escaping the limitations of traditional method but carefully testing each innovation we can eliminate the inadequacies of the delivery of health care. Only if we give the public the very best service we can devise do we live up to the high ideals of the medical profession." □

Reference

1. Evans, J: Speech to 2nd Conference on Health Manpower Education, Ottawa, 1971.

Citation for Senior Membership

"Mr. Chairman; Mr. Premier; Honourable Minister of Health; Dr. Roberts, President of the Canadian Medical Association; honoured guests; ladies and gentlemen.

It is my very great pleasure to present to you as President of the Lunenburg-Queens Medical Society **Dr. John Cox Wickwire, M.D., C.M.**, for Senior Membership in the Medical Society of Nova Scotia, Physician, Citizen, Gentleman.

John Wickwire was born in Milford Station, Hants County, at the turn of the century. He attended Colchester Academy and graduated in Medicine from Dalhousie in the class of 1927.

The following year and one half were spent in Labrador — after which he returned to Nova Scotia and set up general practice in Liverpool. He married Dorothy Fraser and they were blessed with two children, James, a radiologist in Stratford, Ontario, and Joan, married and living in Montreal.

As a physician he has been a leader, both in his community and in the Province. Along with a busy general practice he developed a special interest in Cardiology and became a Fellow of The American College of Cardiology. At the present time he limits his practice to consulting in his speciality.

He was President of this Society in 1944-45 and served on the Provincial Medical Board for several terms.

As a citizen John Wickwire has also served his Province well. He served as town councillor of Liverpool for nine years, was Deputy Mayor and Chairman of the School Board. He is a charter member of the local Kiwanis Club, Curling Club and Golf Club.

He has been active in the Canadian Heart Foundation, is a Serving officer of St. John Ambulance, and an Honorary member of Phi Rho Sigma Fraternity.

He has served on several Royal Commissions — on the revising of provincial liquor laws and on the Medicare Advisory Committee. This was followed by appointment on the first Medicare Commission.

All has not been work for John, however; he is an ardent curler and golfer and a lover of fine music.

And now, in summary — John Wickwire, a Physician, a Citizen and above all, a Gentleman."



Liverpool physician John Wickwire (right) receives his Medical Senior Membership Citation from outgoing 1970-71 President Dr. J. F. L. Woodbury during November Annual Meeting sessions in Halifax. Looking on is Dr. F. G. Bell also of Liverpool.

Highlights of Annual Meeting, 1971



Regional and national chief executives line up with distaff support at the Annual Meeting. Left to right, are: Newfoundland Medical Association President Dr. L. E. Lawton and Mrs. Lawton; Prince Edward Island Medical Society President K. G. Ellis and Mrs. Ellis; CMA President Dr. H. D. Roberts and Mrs. Roberts; Medical Society of Nova Scotia President Dr. G. W. Turner and Mrs. Turner, and New Brunswick Medical Society President Dr. E. B. Johnston and Mrs. Johnston.



1971-72 Medical Society President Garnet W. Turner (right), Windsor, congratulates outgoing President Dr. J. F. L. Woodbury, Halifax, on an eventful term of office at the Society's 118th Annual Meeting last month.

Changing Factors in the Etiology of Diabetes Insipidus

M. H. Tan, M.D.,*

Halifax, N.S.

Summary: *With the increasing incidence of cranial trauma, both accidental and surgical, diabetes insipidus has become commoner in neurosurgical and medical hospital practice. A study of this disorder in three Halifax hospitals over a 15-year period has enabled the author to make a current etiological classification of diabetes insipidus. Hypophysectomy complicated by polyuria was the commonest cause; idiopathic disease, nephrogenic diabetes insipidus, cranial trauma, neoplasms, histiocytosis, and postpartum haemorrhage were other factors. Post-hypophysectomy polyuria, the anterior pituitary insufficiency of postpartum haemorrhage associated with diabetes insipidus, and nephrogenic diabetes insipidus are the main features of the discussion of the topic; the last is particularly topical because of the suggestion that most North American patients with the nephrogenic abnormality are descendants of an Ulster Scot who settled in Nova Scotia in the 18th century.*

Diabetes insipidus is a syndrome characterised first by the inability of the kidney to concentrate urine in the presence of an effective solute load, resulting in polyuria, and second, by the ability of the kidney to concentrate urine when exogenous vasopressin (ADH) is given. The basic defect is a partial or complete deficiency of ADH which, in turn, may be the result of any condition that damages the neurohypophysial system.¹ In the past, intracranial tumours and inflammation accounted for most cases of secondary diabetes insipidus²; in recent years, however, cranial trauma, both accidental and surgical, has become the leading cause of the syndrome. In so doing, it makes this rare disease a more common problem in the neurosurgical and medical wards. The intent of this report is to study the polyuria following hypophysectomy and to establish its role amongst the causes of diabetes insipidus seen in Halifax.

Methods

Two groups of patients were studied.

GROUP A: *Post-hypophysectomy polyuria.* The records of all patients who underwent hypophysectomy during the period from January 1956 to September 1970 at the Victoria General Hospital were examined. There were 67 such patients but 9 were excluded from this series for various reasons: 1 had a biopsy only, 1 had diabetes insipidus before surgery, 2 died within the first 72 hours and 5 had poor records. Of the remaining 58, there were 20 males and 38 females, their ages ranging from 3 years to 68

years. The indications for operation are outlined in Table 1. None had polyuria preoperatively.

Hypophysectomy was done by the frontal approach. All patients received corticosteroids before and after surgery. During the first 2-3 postoperative days, the patients received intravenous fluids to replace that lost via urine; when this loss could not be replaced intravenously, ADH was given and in some patients chlorothiazide and chlorpropamide were used. Except for patients with diabetes mellitus who were managed by sliding scale insulin, glycosuria was lacking; attempts to correlate the degree of polyuria with glycosuria were made in 3 patients.

In this series, all patients with an urinary output exceeding 3 litres per day and a urinary specific gravity of less than 1.010 were regarded as having post-hypophysectomy polyuria, which is considered by many to be synonymous with diabetes insipidus. Thirty-one cases formed this group (20 females and 11 males); the characteristics of the polyuria were also studied.

GROUP B: *Cases of diabetes insipidus.* All available records of cases diagnosed as diabetes insipidus (both pitressin-sensitive and pitressin-resistant) seen at the Victoria General Hospital, the Halifax Infirmary and the Izaak Walton Killam Hospital for Children during the period from January 1956 to September 1970 were examined. Only cases which satisfied the following criteria were included: (i) polyuria (corrected for age); (ii) urine specific gravity of less than 1.010; (iii) negative response to either dehydration or hypertonic saline; (iv) positive response to ADH; and (v) negative response to ADH in cases of nephrogenic diabetes insipidus. There were 38 such cases; 30 were pitressin-sensitive and 8 pitressin-resistant. Seventeen were females

*Formerly Resident in Medicine, Dalhousie University. Present address: 126 Longwood Avenue, Brookline, Mass, U.S.A.

and 21 were males. Their ages ranged from 5 days to 58 years.

The etiology of the disease was established after a complete history and physical examination, and investigations included a VDRL, skull x-rays, and in some cases EEG, pneumoencephalogram and biopsy. In no case was there evidence of *significant* renal impairment. Idiopathic cases were those with no obvious associated cause.

Results

GROUP A: The incidence and characteristics of *post-hypophysectomy polyuria* are summarised in Tables 1 and 2. The incidence of polyuria was 53.4%; this is compared with other series in Table 3.³⁻⁶ In 12 cases, polyuria was permanent. Nine of these were followed for from 4 months to 4½ years. Two were not followed after discharge but had polyuria when last seen, and one died on the 18th post-operative day. Of the 19 cases of transient polyuria, 7 lasted for less than 1 week, 3 for 1 week to 2 weeks, 2 for 2 to 4 weeks, and 7 for longer than 4 weeks (the exact date of spontaneous termination being unknown).

No definite relationship was found between the degree of polyuria and the degree of glycosuria in the cases of diabetes mellitus. However, the specific gravity of the urine was in most between 1.010-1.012.

The maximum daily urine output varied from 3,310 ml. to 16,250 ml.

Figure 1 illustrates the different patterns of polyuria. In 11 cases, it was of immediate onset and was transient; in 8 the onset was immediate and polyuria was permanent; 6 showed delayed onset and transient polyuria; there was delayed onset and permanent polyuria in 2; and 4 manifested a triphasic pattern. This last pattern consisted of an initial transient polyuria, beginning between the 1st and 5th post-operative days and lasting 3 to 4 days; an interphase lasted 3 to 5 days to be followed by polyuria. Two cases of this developed permanent polyuria.

TABLE 1

Incidence of Polyuria Following Hypophysectomy

Surgical Indication	No. Cases	No. Polyuria
Carcinoma of breast	21	9
Diabetes mellitus	16	11
Chromophobe adenoma	16	7
Acromegaly	2	1
Cushing's syndrome	1	1
Craniopharyngioma	1	1
Xeroderma pigmentosa	1	1
Total	58	31 (53.4%)

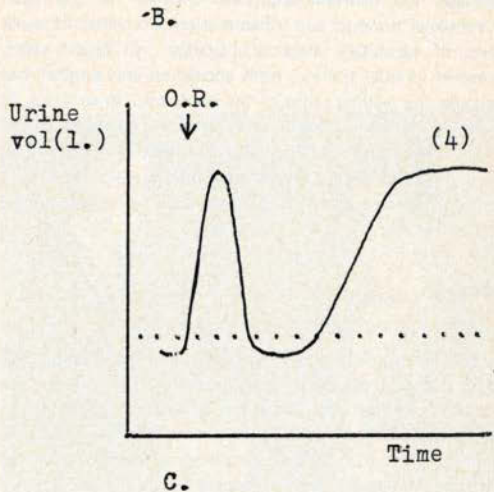
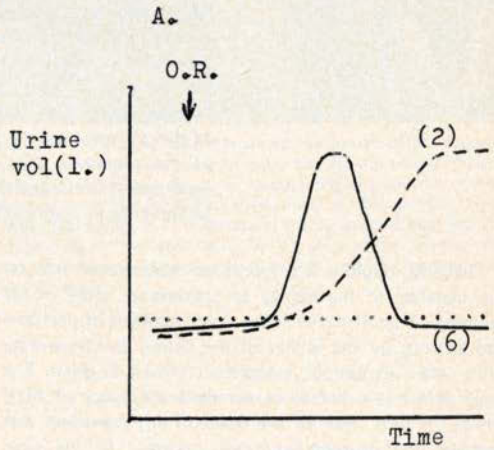
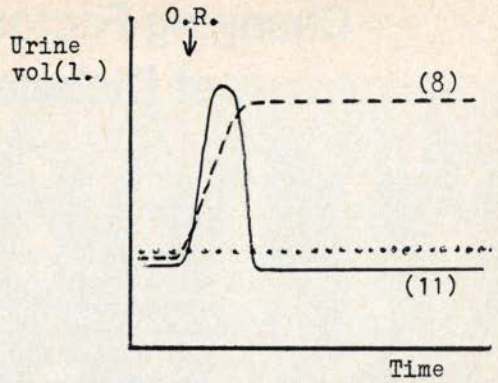


FIGURE 1

The different patterns of polyuria encountered during the post-hypophysectomy period. A: Immediate onset; B: Delayed onset; C: Triphasic pattern. Numbers in parentheses indicate numbers of patients showing particular patterns.

TABLE 2
Characteristics of the Polyuria

	Number of Cases
DURATION Permanent	12
Transient	19
Lasting less than 1 week	7
less than 2 weeks	3
less than 4 weeks	2
more than 4 weeks	7
ONSET Immediate	21
Delayed	10

TABLE 3
Post-hypophysectomy Polyuria in Different Series

Author	Operation	Incidence of Polyuria
Lipsett et al. ⁶	Hypophysectomy	22/26 (84%)
Timmons et al. ³	Stalk section	44/55 (80%)
Sharkey et al. ⁴	Stalk section	18/23 (78%)
Randall et al. ⁵	Hypophysectomy	14/50 (28%)
Present series	Hypophysectomy	31/58 (53%)

Treatment consisted of fluid replacement in all cases. In 18 this was the only treatment while in the other 13 cases ADH also was given as needed. In addition, chlorothiazide was used in 4 cases (during the 1960-1964 period) and chlorpropamide in 3 cases (during the 1969-1970 period).

GROUP B: Table 4 classifies the causes of diabetes insipidus in this series; their frequency is compared with those of other series in Table 5^{2,7,8,9}. *Hypophysectomy* was the commonest known cause of this syndrome, especially in the older age groups, as seen in Table 6.

TABLE 4
Etiological Classification of Diabetes Insipidus

Pathology	No. Cases
Post-hypophysectomy	31 (Group A) +2 (hypophysectomy elsewhere)
Idiopathic	16
Nephrogenic diabetes insipidus	8
Post-traumatic	5
Histiocytosis X	2
Metastatic neoplasm	2
Brain cyst	1
Intracranial neoplasm	1
Post partum haemorrhage	1
Total	69

TABLE 5
Etiologic Classification of Diabetes Insipidus in Different Series

	Fink ²	Jones ⁷	Thomas ⁸	Blotner ⁹	Present Series
Idiopathic	—	8	22	56	16
Familial	—	—	2	3	—
Post-traumatic	11	3	3	3	5
Post-surgical	—	—	9	—	33
1° intracranial neoplasm	68	13	8	36	2
2° intracranial neoplasm	—	—	4	3	2
Syphilis	14	3	—	7	—
Tuberculosis	5	—	—	—	—
Other infections	9	7	—	7	—
Histiocytosis X	—	—	—	—	2
Xanthomatosis	—	4	7	2	—
Other systemic disease	—	—	4	4	—
Vascular	—	3	—	3	1
Nephrogenic D. I.	—	—	6	—	8
Total	107	41	65	124	69

TABLE 6
Age Classification of Diabetes Insipidus

Age, yrs.	No. Cases	Total
0-9	20+(2)*	22
10-19	9+(1)	10
20-29	2+(8)	10
30-39	2+(9)	11
40-49	0+(8)	8
50-59	5+(3)	8

*Figures in parentheses indicate post-hypophysectomy cases.

Excluding the cases resulting from hypophysectomy, the number of cases of diabetes insipidus seen in the Victoria General Hospital during this period was 14; the number of hospital admissions during this period was 203,705, giving an incidence of 7 cases per 100,000 admissions. Including hypophysectomy, the incidence rose to 22 per 100,000 admissions.

Seven of the *nephrogenic diabetes insipidus* cases were male infants, most of whom have affected male siblings. The only female infant had very mild symptoms but had polyuria which could not be controlled by pitressin.

The case of diabetes insipidus and *anterior pituitary insufficiency*, secondary to post-partum haemorrhage, is of interest.

H-M. (VGH 41733), a 33-year old gravida-1, para-2, had a history of pre-eclampsia. On admission to Grace Maternity Hospital, in late January 1965, her BP was 140/80 mm. Hg. On February 1, 1965, at approximately 38 weeks gestation, she had severe abdominal cramps. At delivery the next day the baby was stillborn; a clot, occupying half the placental area, was found. About one hour post-partum she was in shock with a systolic pressure of 60 mm. Hg. and bleeding profusely *per vaginam*. Unfortunately, no figures were given, but it was noted that her clotting time was greater than three times normal and fibrinogen levels were not measurable. Over the next five hours she received five units of whole blood and her condition stabilised. On February 3, polyuria and polydipsia developed. This persisted but she was able to manage with fluid replacement. Investigations one month later (Table 7) showed that she had both anterior and posterior insufficiency. Cortisone 12.5 mg. twice daily was prescribed and she was allowed drink *ad libitum*. In June 1965 polyuria had stopped spontaneously and clinically she manifested signs of hypothyroidism. When last seen in June 1970 she was well and receiving replacement cortisone and thyroxine.

TABLE 7
Data in Case of Anterior and Posterior Pituitary Insufficiency

Pituitary function:	Control	Metropone test	ACTH stimulation
17-KS	2.5 mg/24 hrs	2.5 mg/24 hrs	5.3 mg/24 hrs
17-OH	Not detected	Not detected	16.7 mg/24 hrs
Total eosinophil	169/cu.mm		12/cu. mm
FSH	Negative at 6.6 m.u.		
Thyroid function:			
PBI	3 mcg%		
RAI uptake	6% at 6 hrs; 7% at 24 hrs.		
Urinary output:			
Average/24 hrs	4.5L		
Specific gravity	1.002		
Water deprivation test	Negative response		
Hypertonic saline infusion test	Negative response		
Exogenous pitressin test	Positive response		
Blood chemistry:	Na: 144 mEq/l; Cl: 4.6 mEq/l		
	Ca: 9.1 mg%; BUN: 13mg%; Creatinine: 1.2mg%		
	AC sugar: 80mg%		

Discussion

Since experimental diabetes insipidus in animals is produced by selective surgical destruction of various parts of the supra-optico-hypophysial system (S-H system)¹⁰, polyuria or diabetes insipidus after surgery in this area in man is not surprising. The incidence of this varies from 28% to 84%³⁻⁶. In general, the greater the damage done to the S-H system, the greater are the incidence and severity of the diabetes insipidus.

The S-H system consists of the supraoptic and the paraventricular nuclei, the S-H tract and the pars nervosa. As demonstrated by electron microscopy ADH is synthesized in the neurons of these nuclei and it moves, by axoplasmic streaming, down the axons which terminate in the bulbous expansions on the basement membrane of the capillaries of the pars nervosa.

It is the pathology of the pituitary stalk stump and the adjacent hypothalamus, after the stalk section or hypophysectomy, that is important. Beck and Daniel have described such changes.¹¹ In those patients who died early in the post-operative period, they found that a venous infarct had destroyed the S-H tract, the nerve fibres of which ended in retraction bulbs above the infarct. In patients who survived longer (2-26 months) further changes were observed: (i) the stump had enlarged, reorganised and reinnervated; (ii) the regenerated nerve fibres contained neurosecretory substance; and (iii) the supraoptic and paraventricular nuclei showed some neuron loss after 3 weeks and severe cell loss, accompanied by dense gliosis, after longer survival.

Each supraoptic nucleus contains about 60,000 neurons.¹² Heinbecker showed that if more than 15% of the residual cells survive injury, diabetes did not develop and severe diabetes insipidus occurred only when residual cell survival was less than 5-7%.¹⁰ Hence the degree of polyuria seems to be related to the extent of damage. The site of the lesion is also important. Sharkey⁴ demonstrated that minimal polyuria followed low stalk section and moderate polyuria higher stalk section, while severe polyuria only resulted from the destruction of the median eminence and the hypothalamic nuclei.

The basic patterns of the polyuria, as outlined by Randall *et al*, are (i) brief transient polyuria; (ii) immediate and permanent polyuria; and (iii) the triphasic pattern and its variations.¹³ Temporary polyuria is thought to result from transient failure of the pars nervosa to release ADH after minor injury to the S-H system; within several days, function of the system returns, ADH is released and polyuria disappears. Immediate and permanent polyuria occurs following the complete destruction of the S-H system. With precision, Olsson showed that lesions limited to the median eminence induced the triphasic pattern.¹⁴ Denervation of the pars nervosa inhibits the release of ADH causing immediate polyuria; after several days, the denervated pars nervosa degenerates and discharges its store of ADH to cause the interphase and when the store of ADH is exhausted, permanent polyuria ensues. This implies that the presence of the pars nervosa is necessary for the interphase

to occur.¹⁵ Hence after total hypophysectomy, a triphasic pattern should not exist unless some pars nervosa remains. In this series only four cases showed this pattern.

The exact role of cortisone in post-hypophysectomy diabetes insipidus remains unclear. Randall *et al* showed that cortisone was not responsible for the diuresis.⁵ However, to maintain polyuria cortisone is a prerequisite.¹⁶ The mechanism of the action is supposed to be twofold: (i) by a decrease in the osmolarity of the urine which necessitates a larger amount of water for the excretion of a given solute load, and (ii) by an increase in the daily intake of solute load.

Post-hypophysectomy diabetes insipidus can be partial, for some of these patients can concentrate their urine to a certain degree.¹⁷ One can extrapolate that these patients have 7-15% survival of their residual cells in their supraoptic nuclei. Miller *et al* have devised a test to recognise such patients¹⁸ and applied this clinically to show that these patients responded to the chlorpropamide therapy.¹⁹

During 1960-1964 chlorothiazide was used in the management of diabetes insipidus in post-hypophysectomy patients. First observed in 1905 by Meyer²⁰, the anti-diuretic effect of this diuretic in diabetes insipidus was rediscovered by Crawford and Kennedy in 1959²¹. It has been used in cases which have developed a resistance and cases which are resistant to pitressin. In 1969-1970 chlorpropamide was the agent of choice. Its anti-diuretic action was the outcome of a therapeutic accident reported by Arduino *et al* in 1966.²² Its effectiveness has been shown in many series,^{19,23,24} including one which involved ten of our diabetes insipidus patients.²⁴ Presently, its postulated mode of action is that it potentiates the action of circulating ADH^{19,25} which acts via cyclic AMP²⁶ in the distal tubular cell. This implies that chlorpropamide will only be useful in partial ADH deficiency cases as advocated by Miller *et al*;¹⁹ perhaps it explains why it is only effective in about 80% of the cases.

Hypophysectomy has recently been performed with increasing frequency for various indications. This, undoubtedly, will make diabetes insipidus a more common problem. It is reasonable to accept post-hypophysectomy polyuria as diabetes insipidus for the following reasons. First, the patient initially develops the inability to concentrate urine and polyuria post-operatively; second, in two of our patients (where the tests were performed) there was negative response to water deprivation and hypertonic saline infusion together with a positive response to exogenous ADH; third, as in experimental diabetes insipidus, damage is done to the S-H system during the hypophysectomy; and fourth, evidence of psychologic polydipsia in these cases is lacking.

Diabetes insipidus secondary to head injury is rare, the incidence being about 0.4% of all head injuries.^{27,28} However, it is becoming a more frequent cause because of the tremendous increase in the number of motor vehicle accident injuries. Haemorrhages, rupture and cystic changes in the pituitary stalk have been reported,²⁹ while also,

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Goldman and Jacobs reported a case where the posterior lobe, the stalk, the median eminence and part of the hypothalamic area were replaced by fibrous tissue.³⁰

Our case of anterior and posterior insufficiency secondary to post-partum haemorrhage is unusual. There are only 28 such cases in the literature.^{31,32} This is believed to be the 29th case. The pathogenesis remains unclear but disseminated intravascular coagulation seems probable.³³ This patient had abruptio placentae, developed shock, the clotting time was prolonged and fibrinogen was absent: all in favour of consumption coagulopathy. Degeneration in the supra-optic nuclei was described in one such case.³⁴

Infections and inflammation are becoming less important as causes of diabetes insipidus but idiopathic cases are still common.

Despite the variety of lesions causing diabetes insipidus, the basic defect is a deficiency of ADH. Remarkably, the basic pathology seems the same for all: degeneration of the supraoptic and paraventricular nuclei and/or the destruction of the S-H system. This basic pathology has been described in idiopathic⁹ and hereditary³⁵ cases, after tramma,^{2,9} hypophysectomy¹¹ and post-partum haemorrhage³³ and in sarcoidosis and neoplasms.²⁸

Nephrogenic diabetes insipidus, on the other hand, is due to the inability of the distal tubular cell of the kidney to respond to ADH. Recently, Bode and Crawford proposed that most North American patients suffering from this disorder are descendants of the Ulster Scot who settled in Colchester County in the 18th century.³⁶ Historical data suggest that female carriers were among the settlers arriving in Halifax aboard the ship 'Hopewell' in 1761. Folklore description of its mode of inheritance implies X-linked transmission. Four of our patients (50%) were from Colchester County and the mode of transmission suggest X-linked type, thus supporting the 'Hopewell' hypothesis. □

References

- Coggins, C. H. and Leaf, A.: Diabetes insipidus. *Am. J. Med.* 42: 807, 1967.
- Fink, E. B.: Diabetes insipidus: a clinical review and analysis of necropsy reports. *Arch. Path.* 6: 102, 1928.
- Timmons, R. L. and Dugger, G. S.: Water and salt metabolism following pituitary stalk section. *Neurology* 19: 790, 1969.
- Sharkey, P. C., Perry, J. H. and Ehni, G.: Diabetes insipidus following section of hypothalamic stalk. *J. Neurosurg.* 18: 445, 1961.
- Randall, R. V., Clark, E. C. and Love, J. G.: The relationship of cortisone to polyuria after intracranial operation. *Mayo Clin. Proc.* 34: 269, 1959.
- Lipsett, M. B. et al.: Analysis of the polyuria induced by hypophysectomy in man. *J. Clin. Endocrin. Metab.* 16: 183, 1956.
- Jones, G. M.: Diabetes insipidus: clinical observations in forty-two cases. *Arch. Int. Med.* 74: 81, 1944.
- Thomas, W. C.: Diabetes insipidus. *J. Clin. Endocrin. Metab.* 17: 565, 1957.
- Blotner, H.: Primary or idiopathic diabetes insipidus: a system disease. *Metabolism* 7: 191, 1958.
- Heinbecker, P. and White, H. L.: Hypothalamico - hypophysial system and its relation to water balance in the dog. *Am. J. Physiol.* 133: 582, 1941.
- Beck, E. and Daniel, P. M.: Changes in the human hypothalamus after pituitary stalk section or hypophysectomy. *J. Clin. Path.* 12: 577, 1959.
- Rasmussen, A. T.: Quoted by Botterell, E. H., Ref. 28 infra.
- Randall, R. V., Clark, E. C. Dodge H. W. and Love, J. G.: Polyuria after operation for tumors in the region of the hypophysis and hypothalamus. *J. Clin. Endocrin. Metab.* 20: 1614, 1960.
- Olsson K.: Relations of polyuria and polydipsia in experimental diabetes insipidus. *Acta Physiol. Scand.* 78: 20, 1970.
- Hollinshead, W. H.: The interphase of diabetes insipidus. *Mayo Clin. Proc.* 39: 92, 1964.
- Ikkos, D., Luft, R. and Olivecrona, H.: Hypophysectomy in man; effect on water excretion during the first two postoperative months. *J. Clin. Endocrin. Metab.* 15: 553, 1955.
- Lipsett, M. B. and Pearson, O. H.: Further studies of diabetes insipidus following hypophysectomy in man. *J. Lab. Clin. Med.* 49: 190, 1957.
- Miller, M. et al.: Recognition of partial defects in antidiuretic hormone secretion. *Ann. Int. Med.* 73: 721, 1970.
- Miller, M. and Moser, A. M.: Mechanism of chlorpropamide action in diabetes insipidus. *J. Clin. Endocrin. Metab.* 30: 488, 1970.
- Meyer, E.: Quoted by Havard, C. W. H. in Thiazide - induced antidiuresis in diabetes insipidus. *Proc. Roy. Soc. Med.* 58: 1005, 1965.
- Crawford, J. D., Kennedy, G. C. and Hill, L. E.: Clinical results of treatment of diabetes insipidus with drugs of the chlorothiazide series. *New Eng. J. Med.* 262: 737, 1960.
- Arduino, F., Ferraz, F. P. J. and Rodrigues, J.: Antidiuretic action of chlorpropamide in idiopathic diabetes insipidus. *J. Clin. Endocrin. Metab.* 26: 1325, 1966.
- Webster, B. and Bain, J.: Antidiuretic effect and complications of chlorpropamide therapy in diabetes insipidus. *J. Clin. Endocrin. Metab.* 30: 215, 1970.
- Vallet, H. L., Prasad, M. and Goldbloom, R. B.: Chlorpropamide treatment of diabetes insipidus in children. *Pediatrics* 45: 246, 1970.
- Ingelfinger, J. R. and Hays, R. M.: Evidence that chlorpropamide and vasopressin share a common site of action. *J. Clin. Endocrin. Metab.* 29: 738, 1969.
- Orloff, J. and Handler, J.: The role of adenosine 3', 5' - phosphate in the action of antidiuretic hormone. *Am. J. Med.* 42: 757, 1967.
- Porter, R. J. and Miller, R. A.: Diabetes insipidus following closed head injury. *J. Neurol. Neurosurg. Psychiat.* 11: 258, 1948.
- Botterell, E. H. and Horsey, W. J.: Neurosurgical experiences with diabetes insipidus. *Neurology* 5: 449, 1955.
- Daniel, P. M. and Treip, C. S.: "Lesions of the pituitary gland associated with head injuries", in Harris, G. W. and Donovan, B. T. (eds.) *The Pituitary Gland*, London, Butterworths 1966, Vol. 2, p. 519.
- Goldman, K. P. and Jacobs, A.: Anterior and posterior pituitary failure after head injury. *Brit. Med. J.* 2: 1924, 1960.

31. Aguiló, F., Vega, L. A., Haddock, L. and Rodríguez, O.: Diabetes insipidus syndrome in hypopituitarism of pregnancy. *Acta Endocrinologica Suppl.* 137: 7, 1969.
32. Paley, W. B., Inzerillo, A. J. and Malkary, J. W.: Puerperal diabetes insipidus and panhypopituitarism. *Obst. Gynec.* 34: 96, 1969.
33. Beernink, F. J. and McKay, D. G.: Pituitary insufficiency associated with pregnancy, panhypopituitarism, and diabetes insipidus. *Am. J. Obst. Gynec.* 84: 318, 1962.
34. Bracali, G.: Il sistema ipotalamico e la constellazione endocrina nella necrosi post-partum dell'ipofisi. *Endocrinologica Sci. Cost.* 21: 319, 1953.
35. Braverman, L. E., Maucini, J. P. and McGoldrick, D. M.: Hereditary idiopathic diabetes insipidus. *Ann. Int. Med.* 63: 503, 1953.
36. Bode, H. H. and Crawford, J. D.: Nephrogenic diabetes insipidus in North America: The Hopewell hypothesis. *New Eng. J. Med.* 280: 750, 1969.

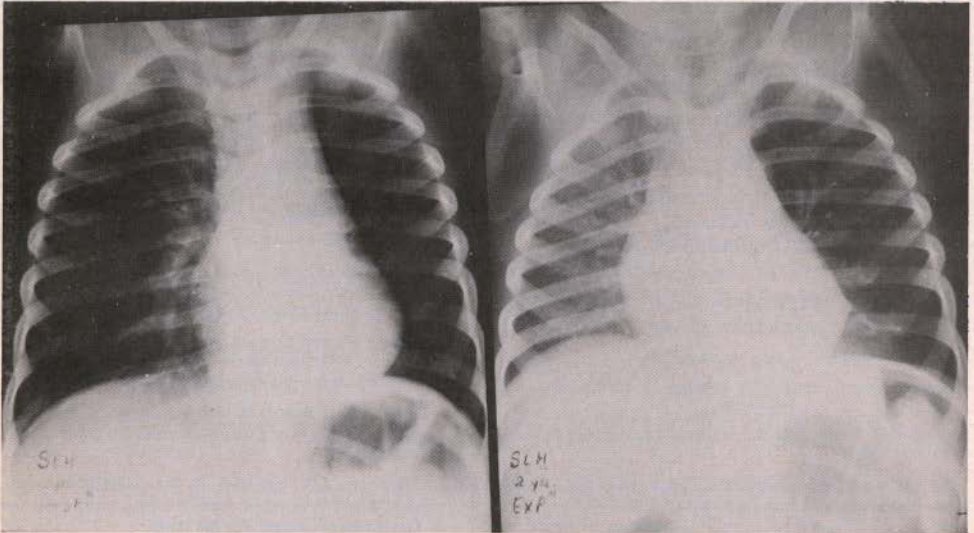
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What is Your Diagnosis?*

Two year old patient who "choked on a peanut several days ago."

Radiographs in inspiration and expiration were made at the same examination. One lung shows normal ventilation and perfusion; the other, extremely limited ventilation and perfusion.

Can you locate the foreign body?



Disgnosis

The right lung shows good ventilation on inspiration and expiration radiographs. The left lung however, shows restricted ventilation, the upper lobe remaining moderately overinflated and the lower lobe remaining collapsed and unduly dense posterior to the heart. A peanut was removed from the left lower lobe bronchus at bronchoscopy.

*Contributed by: B. St. J. Brown, M.D., F.R.C.P.(C), Associate Professor of Radiology, Dalhousie University and Izaak Walton Killam Hospital for Children, Halifax, N.S.

4. Overseas Medicine With Care-Medico in Indonesia

B. E. Pothier, M.D. C.R.C.S.(C),
Dalhousie, N.B.

Some eight years ago, in response to an advertisement in a medical journal, I became acquainted with a voluntary medical organization called CARE-MEDICO. The result of this acquaintance was to take me to war-torn Vietnam, to be followed by other assignments in other countries of Asia and Africa. My most recent assignment was a six-month tour of duty in Indonesia, where I helped establish a new teaching program in Solo, in the province of Central Java.

What is CARE-MEDICO? *Medico* is the fulfilment of a dream of a young American medical officer named Tom Dooley. After his return from Southeast Asia, Dr. Dooley, like many others since, became upset by the medical problems he had seen and left behind, and he decided to do something about it. With the help of friends, he started an organization in which medical and paramedical personnel would volunteer their services to help remedy this situation; this organization he called MEDICO. However, Dr. Tom Dooley's life was to be shortlived; he died at the age of 31, of melanoma. *Medico*, however, was to survive; it was incorporated into CARE, and now is called CARE-MEDICO.

With Medico's growth came a new orientation. The idea of bringing medical aid to remote outposts, thus servicing a small segment of a population, became re-oriented towards a more ambitious program of training medical and paramedical personnel in larger centres. The accent shifted therefore to teaching instead of servicing, and this is its present orientation.

Medico's structure consists basically of two groups of people: a permanent team of doctors and nurses and paramedical personnel on a long-term assignment giving the program its continuity, and short-term volunteers in different subspecialties, giving the program its diversity. Such programs are now in operation in Central America, Asia and Africa.

From the beginning, a substantial proportion of Medico's personnel was Canadian, and eventually most of us felt that the time had come to have an all-Canadian team, completely staffed by Canadian people, and wholly supported by Canadian contributions. And when a new program was planned last year for Indonesia, CARE-

MEDICO of Canada accepted the challenge. Our purpose was to integrate ourselves into an existing 800-bed hospital complex with the primary aim of teaching their personnel and upgrading their services. The long-term team was to consist of a general surgeon, and internist, a gynaecologist, teaching nurses and experienced laboratory technologists. This team was to be supplemented by people in different subspecialties on short-term assignments.



With trainees in Solo, Indonesia.

What conditions did we encounter in Solo? Perhaps the magnitude of the pathology, and the appalling lack of facilities were the most striking features. Everything seemed to be in short supply, except the patients; a few syringes and needles that you had to share with others, fracture cases that had to wait for days to be x-rayed for lack of films, the scarcity of antibiotics, the electric power that would fail at the wrong time: all these were part of our life. For those of us surgeons who could not operate without our special instruments neatly arranged on a Mayo stand, this new world had to be a reassessment of our ingenuity and skill. The idea that a new bulb for our bronchoscope or that a new order of sutures was at least nine months away was not a pleasant thought. Yet the discovery that all our sophisticated armamentarium was not essential for a successful operative procedure, or that a medical diagnosis could be made without a battery of tests, became a happy discovery. To say that we celebrated on the day that we managed to make a proper haemoglobin determination

*Leisure, in the sense of freedom from the demands of one's regular work. Hence inclusion here, a change is as good as a rest. — Ed.

seems ridiculous as I write this from the library of Dalhousie University medical school with its renowned University hospitals; but our excitement there was probably as real as the first kidney transplant here. Gradually however operating-room gowns were made, instruments arrived, and progress became noticeable.

There was also the language barrier. We were told that Indonesian language was easy to master, but for those of us whose memory had atrophied for lack of use, this became a tedious task.

Then there was the combination of new diseases that one sees in tropical countries with all the others that we once knew but had forgotten: the ruptured bowels from typhoid, the ever present tetanus, the polio cases; all these sent us back to our medical books. The diseases that we knew best, like coronary artery disease, and peptic ulcers here were a rarity. Each geographic region seemed to have its own specialties; here, in Central Java, the ones that seemed to predominate were the huge thyroids, the primary cancers of the liver, the bladder calculi in children. To these must be added of course the tropical diseases, from malaria to elephantiasis.

We soon realized that the important part of our program however, is not the pathology, but the human element: the people that are sick, and the officials we work with. As a rule, in Central Java, as elsewhere in this program, the relationship between us and the people we treat is nearly always very cordial, but not always so with those in power. A doctor and his patient have a way of understanding each other, if third parties do not interfere.

How did we make out in Solo? As the first general surgeon on this team, I experienced with other members, the difficulties and the frustrations of any new such adventure, but I also shared in its rewards; and after repeated experiences with CARE-MEDICO and similar organizations, I am still not sure which of these two has made the strongest impression. Some of us have found this kind of involvement a challenging and rewarding experience, and I am among these, while others have found nothing but frustration. Surely the right motivation is a prerequisite for such involvement. The desire to opt out of a society that is becoming more and more demanding, or the vision of an exciting adventurous escapade cannot be the primary reasons for such a decision. The realities of life would soon dampen such dreams. On the other hand, a sincere desire to bring to other people the technical knowledge and the scientific advances that have made Canadian medicine the great discipline it is, will be rewarded by the pleasures of involvement and the satisfaction of achievement. To combine the spirit of the pioneer with a deep love of medicine to me are the basic ingredients of success. I believe that Canadian medicine is well worth exporting, providing that our approach is one of understanding.

There is also another consideration. As doctors we have no vested interests in these countries other than to improve medical care. Power politics or economic gains are not part

of our aims. It is this knowledge that opens to us frontiers that are often closed to others. This is the social aspect of medicine with its tremendous potential for better understanding among nations. No doubt it is easier for us, secure in our homes and traditions, to watch the storms around us go by but can we afford this luxury? Can we afford not to be involved? These are the questions that we who participated in these programs, ask ourselves repeatedly, but the answers do not come easily. Of course the price of involvement is high: to forsake comfort and financial rewards for some unknown adventure does not seem to make sense, unless one is convinced that medicine is indeed a demanding profession, dealing with people's problems, and that one has to try to find a way to solve them. It is this belief that Canadian medicine should get involved in these problems, it is this hope that through medicine, better comprehension can exist, that has brought us to Solo. Tomorrow it will be somewhere else. □

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The Medical Society and health care

The North End Community Clinic, Halifax

J. C. Johnson, M.D.,

Halifax, N.S.

During 1970 three groups became interested in the provision of medical care for the north end of Halifax: a group within the Medical Society which had reviewed the CMA Brief on Poverty, a number of medical students who had been concerned about health in metropolitan areas, and a group of citizens living in this area of Halifax. This area has been well surveyed and reported, but, summarizing, it is an underprivileged area with low-income, multi-problem families, of mixed black and white population, and a great deal of public housing and slums. During the winter of 1970/71 numerous meetings were held under the auspices of the Medical Society, and in April 1971 the author was appointed by the Society to act as co-ordinator of a project to investigate what could be done by the medical profession to alleviate some of the area's problems.

Initial Planning

The first and basic step was an attempt to establish communication with the local citizens. The North End Community Health Association had been formed during the previous winter, by a group of people of this community who were concerned with providing needed health care. Meetings were held with the Association and it became evident that the local citizens had found a medium through which they could express their difficulties, problems and complaints regarding health care. On our part, we found the members of the North End Community Health Association were interested, co-operative and prepared to try and understand some of the problems involved in answering their needs. A basic trust has grown between the citizens and the professionals and this has been vital to the frank exchange of views, so that we can all work together to try and find a new approach to the problems.

After reviewing the literature, and after these discussions with the North End Community Health Association, certain facts became evident:

- i)* that the citizens felt that there were insufficient doctors available in that area, especially on a 24-hour basis;
- ii)* that a large number of citizens wait until a crisis situation arises before seeking medical help;
- iii)* that in these crisis situations, people usually attended the hospital emergency or out-patient department where they felt that they were in a strange, frightening and sometimes hostile environment, and they were often not treated with dignity and respect. Because of these experiences, their negative attitude towards doctors was reinforced, with the result that they would again delay seeking medical help or treatment until

another crisis situation arose. Thus the cycle becomes self-perpetuating;

iv) that the cost of drugs was more than the majority of people could afford. Those on welfare receive help, but to those with low incomes yet not on welfare it was a real problem which resulted not infrequently in their being unable to afford the drugs prescribed;

v) that little dental care was available, totally insufficient to meet the needs of this area.

It also became obvious that clashes arose between the various agencies and organizations working in the north end, and also between these organizations and various citizen representatives. There was little co-ordination or communication apparent among all those persons who were trying to help and provide needed services.

Certain principles were then formulated to guide us in our actions:

i) that nothing be done in the area without consultation with the local citizens and without their approval by a majority vote;

ii) that the citizens of the area be encouraged to organize and run the services, and that the professionals, by and large, only provide the services and advice when asked,

iii) that the services become self-supporting;

iv) that an over-all plan be established to provide services in this area, and that communication be maintained between all groups of citizens and professionals so that services are not overlapping but complementary to each other.

With these aims in view a multi-service complex is envisaged. Presently in operation out of an old building in the area, we have medical services, public health nursing, family planning, the Metropolitan Dispensary and Dalhousie legal aid. Close co-operation with exchanges of views and joint planning, is now maintained between these various organizations working in the complex. The complex itself is actually being run by the Neighbourhood Centre to whom the various agencies pay rent.

The Clinic in Operation

In May 1971 a letter was circulated to all doctors living in the Halifax-Dartmouth area asking for volunteers to help staff the clinic. Out of 600 doctors approached, 34 volunteers, have either contributed both time and money, or only their time. The clinic, at 2172 Gottingen Street, Halifax, opened on June 1, 1971; the hours are 7-9 p.m.

Monday through Friday and 10-12 a.m. on Saturday mornings. The original situation of the clinic (the Pilkington Glass building on Barrington Street), would have meant its location at the extreme left-hand corner of the area it was trying to serve, and the North End Community Health Association members found the present more central. The most useful hours were also chosen by the local citizens. Citizen participation is of prime importance in creating the atmosphere of the clinic, and members of the North End Community Health Association act as hosts and hostesses each evening and assist with filling out forms. The clinic employs a full-time secretary, and more recently a full-time assistant secretary. A public health nurse from the Department of Public Health has been working in the clinic since its inception. Her help has been invaluable, but greater use should be made of public health nurses' services and their special training.

During the first three months, June, July, and August 1971, the services provided can be evaluated from the following figures for attendance:

	Male	Female
Age: yrs 0-13	70	89
13-21	32	40
over 21	<u>72</u>	<u>64</u>
	174	193
Return visits:	<u>48</u>	<u>57</u>
	222	250

This equals 472 visits or 6 visits per session. By the end of October the number of visits per session had risen to 15, and it is now reaching the stage when one doctor can no longer suitably treat all those who are seeking medical services.

During the summer, two groups of students worked in and around the clinic under the Federal Opportunities for Youth Programme. One group of four medical students, sponsored by the Medical Society, was concerned with the medical aspects of the clinic. A second group, from the various health professions, was sponsored by the North End Community Health Association to consider publicity, education, research and drug-cost and dental problems. A survey of the clinic by these students after eight weeks' operation showed that 42% of those persons who came to the clinic did not have a family doctor; of this 42%, 48% went to the emergency departments of hospitals, and 48% went to the out-patient departments. 82% of those who attended the clinic said they were satisfied with the treatment received and stated that they would return. We conclude from this that we are meeting a need in the area and that we have succeeded in reaching those persons who do not have a family doctor. We have also helped to provide a service with which the local people feel comfortable and at home.

What is more important is that we have perhaps achieved a relationship of trust with local citizens. They are now beginning to feel that the medical profession as a whole cares about them. For the first time, a group of professionals has asked the local people what they want and has been prepared to help and advise them. We have, in effect, helped them to create something of their own. For years, the citizens of this area have felt that they have been overruled by authority, instructed in their needs, and what has been provided has been done without consulting them. If, therefore a scheme did not work, all the local people's criticism was destructive. Now, we are giving them help in creating something for themselves for which, if it does not work, they will be largely responsible. This is a complete reversal of lifestyle, from destructive criticism and non-involvement to creative thinking and personal involvement. It will take time for this change to occur fully and we must be patient, but in the long run, this change of attitude may well be far more beneficial than any total medical aid we shall ever give.

Future Developments

What of the future? The city of Halifax has approved in principle development of a multi-service complex in the lower floors of a new high-rise building in the area. For this complex of medical, nursing, and dental clinics, a low-cost drug outlet, family planning, social services, housing and rent authorities, and legal aid facilities are planned, so that people may in one centre get help with their problems. In such a community, problems are usually inter-related and it makes sense to have all services in one building. The professional personnel also can only gain by being in close contact with each other, and helping and understanding one another. The medical clinic now requires a part-time director to co-ordinate the medical services and plan for the future, although in the immediate and foreseeable future, volunteer doctors will still be needed for the clinic. In this regard, the future course of the N.S. Medical Society and the medical profession generally is vital. Much credit must go to those 34 doctors who have participated as active volunteers — without them, nothing would have been accomplished. What of the rest? The future of the clinic may be in jeopardy unless there is greater involvement and active participation by the doctors of the Halifax-Dartmouth area. The Medical Society deserves great credit for the tremendous step forward taken in setting up the North End Community Health clinic; will it also have to take credit if the clinic should fail due to the non-participation of the N.S. Medical Society members and the medical profession as a whole? □

Acknowledgments

On behalf of the North End Community Health Clinic, I wish to acknowledge gratefully financial assistance given by the Nova Scotia Government. My thanks also go to Dr. J. F. L. Woodbury and to Mr. D. D. Peacocke of the Medical Society of Nova Scotia and the nurses of the Department of Public Health.

Personal Interest Notes

One of the most notable events in recent months was the testimonial dinner on November 8 to honour Dr. Chester B. Stewart. It was an occasion of pleasure and sadness, of plaudits but also of modesty, of reflection on the past and confidence in the future. Particularly apt was the announcement of an endowment for gold medals, inscribed with Dr. Stewart's name, to be presented annually to students with the highest standing in the three medical faculties. We reiterate our good wishes to Dr. Stewart on his retirement as Dean of Medicine.

* * * *

It is always good to hear news of smaller hospitals in Nova Scotia. Standards of medical care, especially in the less populated parts of the province, are not easy to uphold. The Lillian Fraser Memorial Hospital, Tatamagouche, was recently complimented by the Canadian Council on Hospital Accreditation for its efforts in providing the local community with a well planned and modern hospital, and its medical and nursing staff was praised for the quality of their care.

* * * *

Dr. F. Ralph Townsend, director of Nova Scotia's division of psychiatric services since 1967, has been appointed administrator of mental health services for the province. He will develop and coordinate all mental health services in Nova Scotia's mental health centres, public and psychiatric hospitals.

* * * *

A native of Pictou, Dr. Donald A. Thompson was recently named an assistant dean of medicine at Dalhousie University in order to direct the university's graduate medical education program in New Brunswick. Dr. Thompson, a Bathurst, N.B., surgeon and formerly President of the Royal College of Physicians and Surgeons, will supervise New Brunswick's cooperative university-integrated residency and intern program with Dalhousie University.

* * * *

Dr. J. F. L. Woodbury, Halifax, was awarded one of seven associateships given across Canada by the Canadian Arthritis and Rheumatism Society in September. Dr. Woodbury's stress on flexibility in both clinical and administrative fields has become well known in the past year.

* * * *

Dr. Ian MacGregor, Halifax, was recently elected chairman of the board, College of Family Physicians of Canada.

Dr. Horace A. Foley, Canning, was honoured at a "Dr. Foley Night" held by local citizens to mark 30 years' practice in the North Kings County area. Born in West Halls Harbour, Dr. Foley started practice in 1941 and recommends general practice to anyone starting out today. "There are lots of compensations", says Dr. Foley.

* * * *

Family Traditions in Nova Scotia

Despite prior apologies, the editor's foot-in-mouth lighthearted decision to enumerate family traditions in medical practice in Nova Scotia brought forth reactions: blood is thicker than ink!

For example, the honoured name of Murray was omitted: 9 doctors in 3 generations. In addition, the following correspondence is self-explanatory:

To the Editor,

In your personal notes of the last N.S. Medical Bulletin, just received today, you do mention a few doctors of Yarmouth who are continuing the local tradition of family medicine.

Since you did mention three of these families, I do believe that it would have been wiser to mention all of them. You did forget to mention Dr. Alex Webster and his father; Dr. D. F. MacDonald and his son, E. F. MacDonald; and of course it would have been also appreciated if you would have mentioned my brother, Gerald, who is practising in Yarmouth, and whose father, P. E. Belliveau, was also a doctor practising in Meteghan.

R. P. Belliveau, M.D.

To the Editor,

I observe, that in the most recent edition of the Bulletin, you claim to have made some research re the subject of family participation in the practice of medicine in Nova Scotia or in the world, for that matter, I cannot say for sure as I am in the process of moving and have not the Bulletin at hand for the moment. However, I seem to believe that your research has not been of a very high and painstaking order.

You have listed most of the important members of the Profession who qualify for recognition, but have made no mention of the lesser lights, to which classification, I suppose the Kirkpatricks belong.

I wish to point out, however, that my brother, Thomas A. Kirkpatrick, graduated in about the year 1929 and practiced in Kentville, N.S. Our cousin Lester L. Kirkpatrick graduated somewhere about the same date and practiced in New Brunswick. My son Donald H. Kirkpatrick graduated in 1950 after serving as a Pilot in the Air Force in the last War and is practising in Kentville, N.S. Then too, I graduated in 1916 and according to literature, practiced in Halifax, N.S. for 31 years where in addition to my own practice I served in charge of the Out-Patient Eye Clinic and as a member of the Medical Faculty, lectured to the fourth year Students for about twenty five years, in the subject of Neuro-Ophthalmology.

Now, to quote that famous character from Cape Breton, I do not say all "this by way of boast", but just to set the record of your research straight, if you are inclined to indulge in such a scientific practice.

I have retired from the practice of medicine as of the date September 24th., 1971 and am moving to Kentville, where my address shall be as recorded in the foregoing. So, wishing you the best of good luck and good fortune, I am,

H. W. Kirkpatrick, M.D.

Correspondence

TB care: general hospitals, not sanatoria

To the Editor,

Your editorial (signed P.S.M.) in the October 1971 *Bulletin* puts forward the case for the Nova Scotia Sanatorium at Kentville as a centre for non-tuberculous as well as tuberculous patient care. It also emphasizes the Sanatorium as the site *par excellence* for the maintenance of centralized treatment facilities for tuberculosis.

Any physician who has had anything to do with chest diseases, and indeed any doctor who has followed the world literature, must disagree with most of the editorial. There won't be any argument about the fact that the patient must come first and that he should be treated in the best way possible and as economically as possible. But a good many other statements and also their implications must be very seriously considered:

1. *The tuberculosis sanatorium is "dead"!*

Actually the final demise will take a few more years but the death blow has already been struck by the powerful anti-tuberculous drugs. Tuberculosis has already returned to the "mainstream of medicine" in many places and the trend continues.

Let us be specific. P.S.M. speaks of the "experience in some jurisdictions where sanatoria have been phased out completely has been chaos . . .". I would like to have the reference for this statement. For my part I will refer to the opinion in Great Britain, the United States of America and Canada, which is that tuberculosis is now best treated in certain general hospitals, that the time spent in hospital is nearly always very short, (i.e. a few weeks to a month or two), and that a very great amount of the therapy can be carried on at home with hospital outpatient regulation. Of course (in anticipation of the outcry from the Sanatorium staff) there will be difficulty in getting some people to take their drugs. But if we can get diabetics to take their pills or injections, surely we can overcome the problem of getting tuberculosis patients to swallow pills.

I quote from some reliable sources.

"The general hospital is the logical place for treatment of those tuberculous patients who need hospitalization — a development in patient care made possible by the proper use of anti-tuberculous drugs and modern methods of controlling infection".¹

"The time has come when the tuberculosis patient must be accepted into the general hospital as is any other patient and provided intelligent, adequate care in an atmosphere free of rejection and fear".²

"As treatment of tuberculosis becomes more integrated with general hospital service — the inpatient and outpatient care should be under the supervision of physicians who have specialty training in chest diseases".³

"It is a very definite policy of the Association (i.e. the Canadian Tuberculosis and Respiratory Disease Association) to recommend the treatment of tuberculosis in selected general hospitals. This has been so stated at annual meetings, in statements by the Thoracic Society and in the report of our evaluation committee".⁴

2. *Cost of Tuberculosis Care.*

Although the Nova Scotia Sanatorium *per diem* rate is less than that in the Halifax teaching hospitals, it is comparable, I believe, with some general hospital in Nova Scotia. P.S.M. may wish to correct me if I am wrong.

However, please consider that the patients at the Nova Scotia "San" stay there too long by modern treatment standards and this increases at least the cost per patient. The modern method of care of tuberculosis means a short time only in hospital, or even no hospitalization at all. Hence, this is much cheaper and it has been shown to be just as effective. If the Nova Scotia Sanatorium kept their tuberculosis patients in hospital for a shorter time, they would then have to admit more non-tuberculous patients to keep the beds filled and the *per diem* cost would approximate that of a comparable general hospital.

Further to this, re the non-tuberculous patients at the Nova Scotia "San", the Federal Government does not share in the cost of treatment of non-tuberculous patients in a tuberculosis hospital, so that the Province of Nova Scotia must assume an extra and unnecessary financial burden.⁵ Also certain departments at the "San" are staffed far more generously than one would expect on the basis of adequacy.⁶ So perhaps the "economic advantages" reported by P.S.M. are not that great after all.

3. *The Tuberculosis specialist is "dead"!*

The Nova Scotia Sanatorium staff is excellent and have done a wonderful job in tuberculous disease care as well as in the non-tuberculous field. The unfortunate thing is that time is inexorable and the age of retirement is going to come to the majority of the staff in approximately fifteen years time. This means they will have to be replaced and there are *just no replacements* and there won't be any. No more Tuberculosis Specialists are being trained. The present ones are the last of their breed. In future tuberculosis care will rest in the hands of the chest physician, the internist and the family physician.

4. *Teaching.*

This naturally leads to the conclusion that the chest physician, the internist and the family physician (and also nurses and other paramedical personnel) must be trained. Because of the tuberculosis care and control policy in this province, we cannot treat tuberculosis patients even in our teaching hospitals. I have attempted to do this and I assure you my statement is correct. As soon as the hospital administrator hears of the diagnosis of tuberculosis, the patient is whisked off to the Sanatorium by the fastest method possible. As a result, the student, whether undergraduate or post graduate, can get no bedside teaching in tuberculosis in the Dalhousie University Medical Course. Obviously, if you don't have any tuberculosis patients available for teaching, there is no teaching.

Referring to the aim of achieving broad tuberculosis programs, the report to the Dominion Council of Health on the 4th National Tuberculosis Conference, held in Ottawa October 20-22, 1969 (and attended by members of the Dominion Department of Health and Welfare, tuberculosis specialists from across Canada, representatives from the Canadian Tuberculosis and Respiratory Disease Association and also experts from Europe and the World Health Organization), states: "Treatment of tuberculosis patients in the chest wards of teaching hospitals constitutes an essential first step in achieving this aim".

In conclusion, I realize that the views of many people, in particular those from the Sanatorium, differ from mine but I feel that if we are going to be realistic, we must see the shape of things to come and prepare now rather than later to gear our tuberculosis program to fit better to the needs of patients, students and the people who are paying the bills.

The need for a small number of hospital beds for tuberculosis patients in the Halifax teaching area is, in my opinion, of prime importance in our medical education program.

References

1. Guidelines for the General Hospital in the Admission and care of Tuberculosis Patients. American Review of Respiratory Disease; 99, 631, 1969. (Ad Hoc Committee on the treatment of Tuberculosis Patients in General Hospitals).
2. Meade, G. M.: Editorial. Clinical notes on Respiratory Diseases (American Thoracic Society). Fall 1967.
3. Report to the Dominion Council of Health, 4th National Tuberculosis Conference, Ottawa, October 20-22, 1969.
4. Jeanes, C.W.L. Personal communication.
5. Report of the Committee surveying needs for beds and facilities in Public Hospitals of Nova Scotia (Chaisson Committee Report, November 1969).

R. L. Aikens, M.D.
Halifax, N.S.

Viral Hepatitis and the LeDain Commission

To the Editor,

There is growing evidence that the Australia antigen (*Au*), closely related with serum hepatitis and chronic viral liver disease, is possibly a transmissible virus, possessing unique properties.¹ The grave possibility of transplacental passage has also come under scrutiny. The antigen is usually disseminated through blood transfusion. Notwithstanding the availability of many sophisticated techniques for its recognition in blood donors, only a proportion (25% to possibly 40%) of asymptomatic icterogenic donors, may be so detected and automatically rejected. In short, there is no certain method whereby human blood can be guaranteed to be free from the serum hepatitis virus. The larger the volume of blood used, the greater will be the risk of acquiring jaundice. Thus, the potential spread of the antigen by blood transfusion is a matter of immediate concern to the medical and likewise, to a lesser extent, the dental profession. The additional laboratory costs incurred in testing blood for virus must also be provided for.

Current data reveal that a proportion of drug addicts (syringe users), are carriers of the *Au* antigen in their blood for long periods of time. Such individuals without revealing the history of drug use may volunteer to donate blood. The detection of the antigen in their blood is therefore imperative for protecting the health of unsuspecting members of the general public, who may receive blood, in the event of an emergency or illness, occurring anywhere or at any time in Canada.

The Interim Report of the Commission of Inquiry into the Non Medical Use of Drugs (1970)² avoids reference to the consequences liable to arise from the increase of the *Au* antigen among drug addicts (syringe users) in Canada. Neither does it take into reckoning the much more important aspect of the long term use of drugs in such a manner, as it may affect the health of Canadians at large, who do not indulge in the non-medical use of drugs.

The final Report of the LeDain Commission has not yet appeared. When it does so, it is hoped that it will contain adequate reference to the problem of viral hepatitis among syringe users. The possible impact of the Commission's recommendations on the aggravation or amelioration of this problem relative to blood transfusion services in Canada will also be awaited with interest.

References

1. Viral Hepatitis and tests for the Australia Hepatitis associated antigen and antibody. Bulletin of the World Health Organization (1970) Vol. 42, No. 6, p. 957.
2. Interim Report of the Commission on Inquiry into the Non Medical Use of Drugs (1970). Queen's Printer, Ottawa.

C. E. van Rooyen, M.D., F.R.C.P.,
F.R.C.P(C), F.R.C. Path., F.R.S.C.,
Halifax, N.S.

North End Clinic

To the Editor,

The citizens of the North End Community Health Association would like to take this opportunity to express sincere thanks and appreciation to the Nova Scotia Medical Society for the tremendous assistance they have given our Clinic in trying to meet its goals.

In particular, we would like to thank Mr. Peacocke, Dr. Woodbury, and the doctors who have volunteered their time and in many cases their money. Without these fine people and the support they have so willingly given us, we would not be functioning today.

Each and every member of our Association thanks you:

The Citizens of the North End Community Health Association.

Mike Adams,
Chairman,
North End Community Health Association,
Halifax, N.S.

Income Tax News

It has come to the attention of the Medical Society that salaried physicians' claims for deduction of professional membership dues are being disallowed because they are held unnecessary to maintain professional status. The only deduction being allowed in many instances is the provincial licensing fee.

The Medical Society's auditors have enquired into the possibility of registering the Society under what is broadly referred to as the Charitable Organizations classification. The Medical Society, a "Learned Society or Scientific Society formed for purposes of advancing the collective interest of the profession", cannot meet the requirements of a registered charitable organization. Thus, it has been determined that this would not be a course of action and the requirement set out in the first paragraph still applies: annual professional membership dues, the payment of which was necessary to maintain a professional status recognized by law.

The Society's position with respect to licensure and payment of dues is that both be compulsory. Hopefully this will be achieved soon. Then the problem will be solved.

In conclusion, it has come to the Society's attention that in many instances, salaried physicians, particularly pathologists, have provided consultant services in circumstances and situations totally unrelated to their salaried position *and* have accepted as official record of payment for these services a Form T4 instead of a Form T4A. In these circumstances, if the T4A or, better still, if no form is issued by the institutions for the professional fees and the annual income report is submitted on a T1 GENERAL return, membership dues may be deducted from the professional income.

It is recommended that physicians who "erred" as described above should consult with their accountants regarding re-submission for their tax year 1970. □

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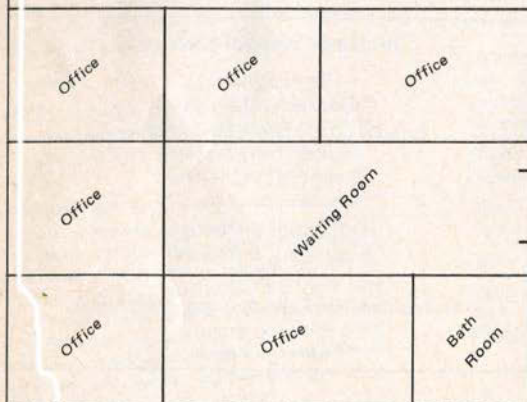
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