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Clinical Research and the Family Physician

Clinical research: what has this subject got to do with an issue on general practice, or if you prefer, family practice? In this issue there are discussions of the changing role of the general practitioner, vis-a-vis his education, his modus operandi, and his place in research.

The family doctor is the first professional to see the patient, to hear his complaints, and to initiate investigation. He may be the only contact, hence the only one to order treatment, and to observe its results. The family doctor then, would appear to be the natural source and the greatest potential contributor to medical knowledge.

Such, unfortunately, is not the case. Nor will it be so as long as the individual physician is forced to carry the present work-load. The average practitioner will take his "gems" to the grave with him until general practitioners are all working in University settings or in clinic groups where the necessary ancillary and clerical services are available.

One particular change which will probably result in the family doctor doing more research, however, is the Residency Training Program in family medicine. The result should be that in the future it will be the specialist family physician who will, in every case, be the first doctor whom the patient contacts. By virtue of his training, the specialist general practitioner will be both more research-oriented and better organized to carry out a research program, particularly in the framework of a group practice.

Until these changes take place, clinical research by the hard-pressed family doctor will regrettably be the exception rather than the rule. □

M.E.B.

Commentary

Drug Abuse

One of the "games people play" today is the drug-abuse education game. Two teams participate: a panel of experts, consisting of doctors, pharmacologists, and police, and the audience, made up of parents, teachers, and young people. There are no referees or score-keepers. It rapidly becomes apparent that, while few come to learn, most attend looking for confirmation of preconceived notions. As the game progresses, both teams are inclined to become emotional, and points scored by them are lost in the confusion. After the game both sides are usually frustrated and angry; both are convinced that they lost.

Elaborating further, a selection of panels is available for audiences:

i. The "Scare" panel, for parents who are less interested in their children learning facts than in scaring them;

ii. The "Placebo" panel, for the enlightened parent who wants to hear that it is really not bad at all, and "so what if Johnny's using drugs";

iii. The "Legalize" panel, most popular with youth. This lists many reasons why marijuana should be lawful and carefully avoids other knotty problems;

iv. The most popular panel for the adults, however, if it were available, would be one which could complete a two-hour program without once mentioning the evils of alcohol.

Why the emphasis on alcohol? For in any discussion of misuse of drugs by young people, the substance which immediately springs to mind is in fact marijuana. Yet of the many psycho-active substances it is alcohol which is most widely used by the young; as surveys of high schools in Toronto, Montreal and Halifax have shown, from the same questionnaire, about 47% of students had used alcohol in the preceding six months as against 7% usage of marijuana. Again, which drugs are chiefly responsible for the statistics of drug misuse in our hospitals and clinics? Alcohol, barbiturates, nicotine, amphetamines, minor tranquillizers and "over-the-counter" prescriptions appear to be the offenders.

Another pertinent question is which side of the "generation gap" uses drugs the most. The following statements heard recently illustrate prevalent attitudes:

> "... I brought my 12-year old daughter to this meeting to hear the horrors of drugs". (Father)
>
> "... Those young people couldn't be using drugs, I know their families." (Committee member)
>
> "... One of the local experts is making statements about drugs which are rubbish and I will wait for a more authoritative statement from the Medical Society": and wait and wait ... (Local News commentator)
>
> "... There is no way you can communicate with your children from the tavern or bingo hall." (Local paper quoting expert)

There can be as little communication from a private club or across the breakfast table. Regardless of its dimensions, the weight of a hole remains the same.

The primary focus of attention does appear to be marijuana, which many still consider to be synonymous with bad drugs. We tend to forget more serious consequences attend the use of certain other substances. These are: solvents; stimulants, including methedrine ("speed"); depressants, such as barbiturates, alcohol, minor tranquillizers, the true narcotics, and "over-the-counter" preparations; and psychedelics like LSD, STP, DMT, and LBJ. Of these, the stimulants, particularly "speed", is probably the most serious problem in the adolescent group in the Halifax area. Adults still will not accept the fact that 'teenagers use needles for drug-taking. Furthermore, many adolescents, thinking that they are taking drugs, are unknown to them, in fact "shooting" substances such as ampicillin or Contac C, the similarity of the white powder being the disguise.

The situation is complex. Most of the adolescents I see are from middle- and upper-class homes. Many have an apparently good home situation, while others come from broken homes: but all say that their parents do not want to communicate or have nothing worthwhile to say. Most of these adolescents have no good reason why they like using needles, and most were initiated by a friend. The example of one grade 10 student is relevant. Attempting to come off methedrine, he needs much support but no facility is available to help him. He was supporting his $75.00-a-week habit by pushing hashish. In his view, we have to reach this group before the needle is tried, because once this happens these adolescents will no longer believe in the dangers of shooting drugs. In this connection, it is interesting that some experts feel that "speed" freaks should be treated in a manner similar to heroin addicts.

Many of these young people want someone to listen. This is an important part of a physician's task, but it is naive to believe that we see a fair sample of these alienated individuals in our orthodox clinics: they avoid our institutions, fearing, with some justification, our disdainful, judgemental approach. Rather, it is often in the street, in the walk-in type of clinic which is staffed and organized by their peers and supported by

medical and paramedical facilities, where these members of society feel that they have a chance with therapy rather than theology. We do not appreciate their disrespect for our customary styles of health-care delivery; perhaps we should examine some of the innovative approaches to health care rather than blame their alienation for any lack of appreciation of our standard medical services. The sheer numbers of disturbed or disturbing youth, and the evolution of a well-defined youth subculture, have forced us to realize that adolescents constitute a separate, clearly delineated, critical period of development with specific and unique maturational tasks. Heavy demands are placed on medical and paramedical personnel for education, planning, and referral in the medical services; adequate medical manpower experienced in youth problems, however, just does not exist.

The important fact remains that the unsupervised use of any intoxicating substances by adolescents and children is highly undesirable because of interference with the growing organism. Surely what we need is a factual, educational approach, backed up by appropriate legislation which will ensure treatment if necessary. The main emphasis in this education should be on the use rather than the misuse of all powerful phenomena in our society, be these be atomic energy, sex, or drugs. All of these can be used constructively and responsibly: all can be used destructively and irresponsibly. No one likes to see the future of a growing organism delayed, deformed, or destroyed by unwarranted pollution, whatever the cause. □

C.A.B.

CORRESPONDENCE

ELECTIVE INDUCTION

To the Editor,

The letter from Dr. S. C. Robinson in the April 1970 issue of the *Bulletin* is a classic example of the belief that if one writes at the university level, pious falsehoods and buffalo chips carry more weight than facts. Dr. Robinson relegates my recent article on elective induction (*Bulletin*, February 1970) to the waste can without giving a single shred of evidence against my findings.

Dr. Robinson states that elective induction increases the incidence of prematurity. This was not true of my small series, and in the series of 5,034 reported by Fields[1] the incidence was 2.3%, as opposed to a 3.7% incidence in non-induced patients.

Dr. Robinson made a great ado about rupture of the uterus. There was no rupture in my series of 363 cases nor in the large Fields series. I would further challenge Dr. Robinson to produce a single case in his own experience in which uterine rupture followed elective induction. May we be honored with an early reply from Dr. Robinson?

D. R. MacInnis,
Shubenacadie, N.S.

1. **Fields, H.**: Induction of Labor, *Postgrad. Med.* **44**: 226, 1963.

This letter was shown to Dr. S. C. Robinson, whose reply is printed below. This correspondence is now closed. The study by Fields may be read to give balance to the argument. His words perhaps sum up the views of both sides: "When precautions are not observed, serious complications such as fetal death and uterine rupture may result... It is not suitable for every woman nor should it be done by every physician who practises obstetrics."—Ed.

To the Editor,

Between 1958 and 1968 there were *four maternal deaths* in Nova Scotia associated with the *injudicious* use of oxytocin. 20% of the ruptured uteri were due to the injudicious use of oxytocin and 10% of the hemmhogic deaths were also due to the injudicious use of oxytocin.

There are no reliable reasons for the Province to show the number of premature births associated with elective induction of labour.

One cannot be too careful!

S. C. Robinson, M.D.
Halifax, N.S.

President's Page

Murphy's Law and M.S.I. . . . .

"If everything seems to be going well, you have obviously overlooked something": Murphy's Law is recommended for serious consideration by all of us. Because of the smooth operation of Medicare in Nova Scotia as compared to its problems in several other provinces, and because of the highly effective services on our behalf by the Public Relations Committee and the Public Relations counsel of the Medical Society of Nova Scotia we may believe that everything is going well. From the vantage point of six months' experience as your President, I wish to comment on several matters that we must not overlook because, to quote another of Murphy's Laws, "Left to themselves, things always go from bad to worse."

There were predictions of trouble for the profession before the introduction of Medical Services Insurance. The Commissioners, their administrative agents—Maritime Medical Care—, your President's Liaison Committee, and your three representatives on the MCIC Tariff Development Committee, have expended much effort both in the prevention and the correction of problems relating to implementation of "An Act to provide payment toward the cost of certain medical services under Nova Scotia Medical Services Insurance." Continuing activity by these groups is required. I would like to emphasize the value to the Society's Fees Committee of data derived from the computer. Facts to confirm sound opinion and to refute unsound proposals for change will be available to the Fees Committee for the first time. It will also be possible to "pretest" projected fees under accurately simulated practice conditions. Without ability to differentiate, the computer is bringing to light instances of irregularity which, as further study shows, at one end of the spectrum are representative of atypical, but acceptable, patterns of practice, and at the other end of the spectrum gross fraud. The Society has named six representatives, established practitioners, to a Medical Advisory Committee of Maritime Medical Care to consider such matters. The new Medical Act of Nova Scotia, introduced in April of 1969, gives the Provincial Medical Board a much more effective role in protecting the public interests and regulating the quality of medical practice. Malefactors in our midst will now rarely go undetected.

The attitude of the public toward the doctor has changed in Nova Scotia under Medicare. The individual patient having been taxed to provide "Payment toward the costs of certain medical services," and being unaware of the limitations inherent in this title, is becoming increasingly quick to complain to the Medical Society, to MSI, to the Provincial Medical Board, and to the Minister of Health. Only by devoting significantly more time to the niceties of the doctor-patient relationship, to good manners no matter what the provocation, and to meticulous adherence to the established principles of medical ethics, can this unhealthy trend be slowed, and hopefully reversed.

Over the past few months we have been made thoroughly aware of the reports of the Federal Task Force on the costs of medical care. Every hospital in the province has felt the impact of a government economy drive which coincided with the release of the Task Force reports. Before the profession dare complain that the quality of medical care must suffer, we must strip our hospitals and private practices of existing inefficiencies that, in effect, lower the quality of medical care provided in this province. Even using the practical, rather than the ideal as our standard of quality, I believe improvements are possible. Surely our patients deserve bright, clean, neat and comfortable waiting rooms, courteous and efficient office assistants, and members of the profession who save their time for the high quality care of their patients through delegation of non-medical components of their practice to experts such as a consultant accountant, a part time bookkeeper, a telephone answering service. Certain practices in this province make very effective use of radiotelephone communication, keeping the majority of the doctors in the community in constant communication with the hospital, and with one another.

Over 250 different categories of medical assistants are training formally in institutions in the United States. How many ophthalmic assistants, for example, are working, or even in training to commence working, in the offices of our seriously overworked ophthalmologists in Nova Scotia? How many nurses, additionally trained as paediatric assistants, are assisting doctors of this province in well baby care? In intensifying our efforts to provide efficient quality care, we must recognize that this will not result from increasing our referrals to radiologists and pathologists, who are already as seriously overworked as we are ourselves in other fields of practice. Informative referrals and careful selection of investigations requested will help in keeping these crucially important members of the medical team practising with us, rather than leaving the province.

To paraphrase Murphy's Law, I know all is not going well and I am sure I have overlooked something. I hope I have brought to your attention some matters that require urgent attention.

Lea C. Steeves,
President,
The Medical Society of Nova Scotia □

The Role of The College of Family Physicians of Canada

S. G. B. Fullerton, M.D., C.M.*
Halifax, N.S.

With the meeting of the National Assembly of the College of Family Physicians of Canada being held in Halifax during July 1970, it is appropriate for us to recollect our progress and also to consider our motives for involvement in College activities.

When I look at the agenda for one of our meetings and see the list of committee reports I am reminded how different the situation was just a short time ago when the College was founded in 1954. At that time the lot of the General Practitioner was a poor one, so much so, that the Canadian Medical Association organized a committee of General Practitioners to look into this deplorable state of affairs.

The G.P. was being down-graded in the eyes of the general public. He was looked upon as a "second rate" doctor—a left-over from the horse and buggy days. In fact someone actually produced a graph depicting the parallel between the gradual disappearance of the horse and buggy and the demise of the General Practitioner. Many educators considered the G.P. to be "the guy on the bottom of the ladder"—the man with the basic training who was a drop-out in the stream of further specialized training. This man had no prestige and nothing to offer—so much so that a survey of University staffs at that time showed an astonishing lack of G.P.'s to be found anywhere on the medical faculties of our universities. The hospitals all across the country were closing their doors one by one to G.P.'s. Numerous articles were being published in North America favoring and advocating the end of the G.P. and his replacement by a team of specialists. In essence we were on the brink of extinction!

With the formation of the College of General Practice on a national level we, at last, had an organized body of General Practitioners who were prepared to study the situation. Our wise founders very quickly realized that the best way to elevate the status of the G.P. and to regain their former respect and prestige was to analyze just what a G.P. was and what his function should be in the community and, having determined this, to go all out and promote this type of trained, skilled, family doctor.

One of the first things we did was to hold a national conference on the content of General Practice. We then met with the Association of Medical Colleges and convinced them that the present teaching methods were antiquated and that most medical schools were not turning out well-trained family doctors and that most were not making any attempt to encourage practising doctors to keep up with modern medicine. To the best of my knowledge only one medical school in Canada at that time had a formal department of continuing medical education and that was at Dalhousie.

At the first meeting we were asked, "What does a G.P. do that a specialist couldn't do better?" I think one of the biggest milestones in our short history has been the detailed study of General Practice carried out by our College which showed our medical educators that this was in fact a separate discipline and that the good family practitioner did indeed possess skills, attitudes and knowledge that no one else in the medical community possessed. Once they were convinced of this, they, with their knowledge of educational methods and pedagogy, began to take a second look at their respective curricula. Most physicians are very familiar with the chain of events since then. Notable are the increase in the number of full-time professors with family practice background; the development of undergraduate curricula designed specifically for the training of family physicians; the formation of model family practice teaching units on the campus; and the development of post-graduate programs leading to certification in the specialty of family practice.

All medical schools in Canada now have a formal department of continuing medical education, designed to provide and promote short courses and teaching programs to help the family doctor keep abreast of the times. All this has done a great deal to raise the standard of practice and consequently the prestige of the family doctor in the eyes of the public, the government, the university and our medical confreres.

The College of Family Physicians has also been the catalyst in stimulating many hospitals to promote the development of departments of family practice thus to open the doors again to the family doctor. Many hospitals in Canada today insist upon membership in the College of Family Practice, or its equivalent in terms of postgraduate study credits as conditions of active staff appointment.

There are many other accomplishments of our College but space does not permit their discussion. It is appropriate here to reminisce and consider what has gone on, where we are and where we are going and to emphasize again, that no one but family doctors are prepared to fight for family doctors and it is only through our own efforts that we will continue to progress rather than regress as once before.

It should be emphasized that it is purely because of the work and effort put forth by the College of Family Physicians on our behalf that we command a position of respect by our teachers, government and confreres today and that the standard of medical practice carried on by the conscientious family physician of today is much improved over that of twenty years ago.

I know of no other section of organized medicine which has done as much on behalf of the family physician. I urge all doctors to support the College of Family Physicians of Canada so that it may continue to progress with the times. □

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*President, Nova Scotia Chapter College of Family Physicians of Canada.

Research in Family Practice: Its Development in Nova Scotia

I. G. MacPherson, M.D., J. Fraser, M.D. and E. G. Nurse, M.D.*

Halifax, N.S., Bedford, N.S., and Dartmouth, N.S.

Summary: *The organization of Family Practice Research in Canada is outlined, and the development of the Nova Scotia organization is traced. Advances in technology of data recording, and the realization of the importance of the family practitioner as the patient's first contact have led to increased interest in research in this field. The introduction of research techniques into the Third Year medical curriculum, the holding of a Workshop in family practice research, and the development of a model research project are some of the ways in which the Nova Scotia Committee have been assisting in the development of research.*

As a result of the initiative generated by a meeting of the National Research Committee of the College of Physicians of Canada in Toronto in January, 1969, a three-tier organization has been built up in Nova Scotia with a mandate to encourage and facilitate research in family practice.

The *structure* of the organization is outlined in the figure and consists of the following:

(a) The National Research Committee of the College, which creates policy and co-ordinates all research projects across the country;

(b) The Provincial Committees of other provinces, which send delegates to the National Committee, and organize research in their own provinces;

(c) The Nova Scotia Nucleus Committee, whose function is to promote and sustain activity in research in family practice in this province;

(d) A resource body with special skills and knowledge, which assists the Nucleus Committee, acts as consultant, screens application to carry out projects and can suggest areas where it would be worthwhile initiating programmes of research;

(e) Carefully chosen, capable and enthusiastic regional corresponding members who will generate interest in research in their own locality and provide a vital link between participating physicians and the Nucleus Committee.

This organization is being built up at a time when there is evidence of an exciting awakening of interest in the possibilities of family practitioners participating in research. This has been prompted by certain recent events, including:

i. The continuous improvement in family practice stimulated largely by the activities of the College of Family Physicians;

ii. The development of family practice teaching units in medical schools, encouraging a clearer definition of family practice and establishing its functions and content;

iii. The application of computer technology to data accumulation, retrieval and analysis in family practice, making this possible for the busy practitioner by relieving him of time-consuming procedures;

iv. The acknowledgement of the unique position of the family practitioner as the primary contact physician for the patient, and his responsibility for their continuing care over long periods of their own environment.

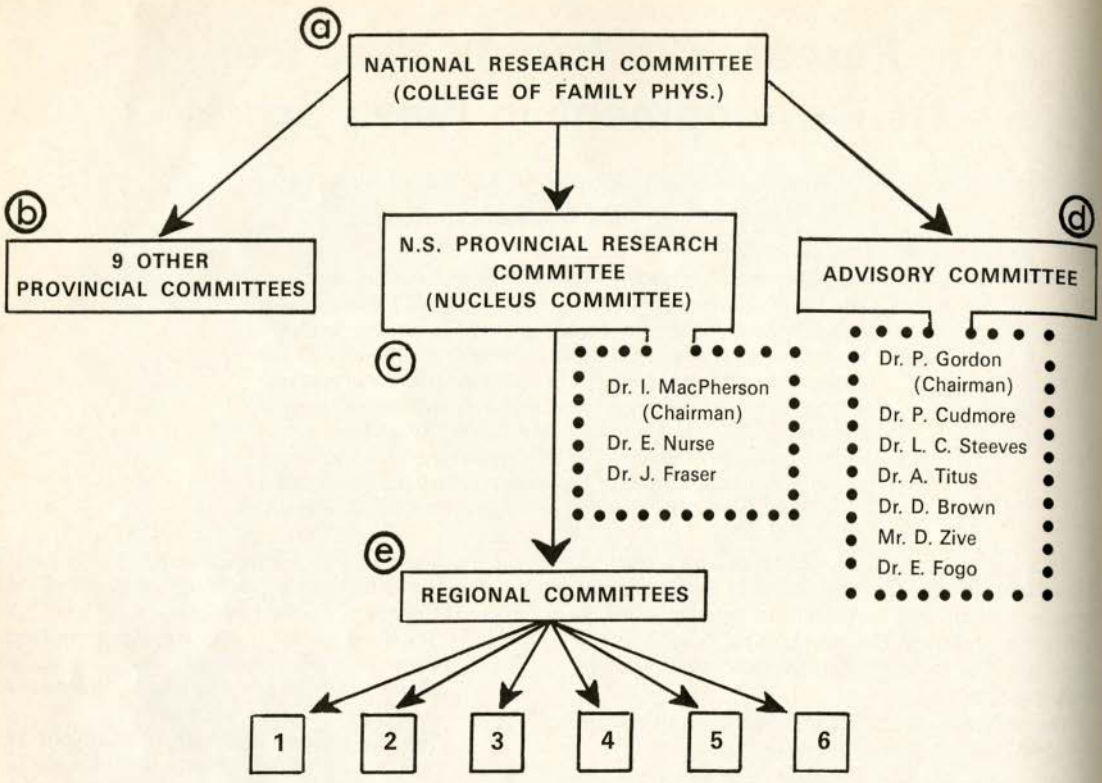
Indeed, it has been said that the family practitioner can be likened to the naturalist who observes animals in their natural habitat, in contrast to the zoologist who sees them in artificial caged conditions. As a result of his unique position, the most appropriate categories of research for the family practitioner are epidemiological, organizational, clinical and therapeutic studies.

Achievements of the Organization

Following the creation of the provincial organization, the next step was to implement the second part of our mandate, that of fostering interest in research.

As a result of co-operation with the Department of Preventive Medicine of Dalhousie University, compulsory training in simple techniques of data-recording has been introduced for Third Year medical students participating in the Comprehensive Health Care Project. In this project, students are assigned as family doctors to families enrolled in the scheme, and record each contact in the "E" book. In this way, we hope to have graduates emerging into family practice who have been trained in the appropriate basic techniques of research.

*Chairman and Members, Provincial Research Committee, Nova Scotia Chapter, College of Family Physicians of Canada.



Another enterprise to stimulate activity was the organization of a Workshop in October, 1969. The programme, designed to inform interested practitioners, commenced with a review of provincial activities, which was followed by a talk by Dr. Peter Gordon on appropriate areas for research. Illustrative examples were given by Drs. Arthur Titus and Donald Brown. A panel discussion including a question and answer session allowed participants to acquire more detailed information. In addition, Dr. James Collyer, Chairman of the National Research Committee, spoke on the national objectives.

We felt the Workshop fulfilled its function effectively, and decided to publish a record of the meeting. Approximately sixty copies of a 25-page folio were circulated, together with a questionnaire designed to allow evaluation of the Workshop and the publication. From this, we learned that there was a need for frequent personal contacts, and a need to dispel fears that research required an abnormal intellect or was time-consuming. There was need, too, to acquire knowledge in basic research techniques.

A Model Project

As one method of meeting these needs we decided to launch a model project satisfying the following criteria: —

i. The project must be clearly worthwhile;

ii. Participation in the project would clearly not make excessive demands on the recording physician's time and participation would be stimulating rather than a dull routine;

iii. The accumulation of data for the project could be done within the framework of a simple design and of a limited duration;

iv. All those in the province who had expressed an interest in family practice research could be involved;

v. Participation to be an educational experience;

vi. A project director would be appointed, the Nucleus Committee acting only in its clearly defined role;

vii. The project would demonstrate that the family physician in research can act in a co-ordinating and directive capacity in the same way as in his clinical practice;

viii. It be evident how much valuable research, often with the biggest rewards, can only be undertaken by or with the co-operation of family physicians.

The Director of the project will be Dr. Michael Hebb of Dartmouth, N.S., in collaboration with Doctors Cudmore and Scott, Consultant Staff of the Grace Maternity Hospital, Halifax, N.S.

It is planned to have further workshop-type meetings across the Province in centres other than Halifax with the probable subject matter of the next meeting being "Basic Techniques". Newsletters and questionnaires on appropriate areas for research are also contemplated. □

Perinatal Research Project

The first major research project initiated and directed by the Research Committee of the Nova Scotia Chapter of the College of Family Physicians will soon be undertaken. This will involve antepartum identification of the fetus at risk.

It is well known that the perinatal mortality is high in Nova Scotia as well as the rest of Canada and the decline over the past 15 years has not been satisfactory.

The objectives of this project are to determine: —

(1) the incidence of high-risk pregnancies in family practice in Nova Scotia;

(2) if the recognition of high-risk pregnancies results in the lessening of mortality either stillborn or neonatal.

In the near future every family physician practising obstetrics in Nova Scotia will be invited to participate in this project. This will entail applying a check-list of high-risk factors to their maternity patients and the provision of a discharge summary.

It is hoped that the Family Physicians of Nova Scotia will participate, for without them this very important research will not be possible. □

A. M. O. Hebb, M.D.
Project Director,
Woodlawn Medical Clinic,
110 Woodlawn Road,
Dartmouth, N.S.
Tel. 463-6550

Reference

Goodwin, J. W., Dunne, J. T., and **Thomas, B. W.:** Antepartum Identification of the Fetus at risk. *Canad. Med. Ass. J.*, **101**: 458, 1969.

NOTICE TO MEMBERS

Due to requests for Back Copies of *The Bulletin* our office is short of the following issues from 1969: February and October.

Would any Member who has a spare copy kindly forward it to: The Medical Society of Nova Scotia, Sir Charles Tupper Medical Building, University Avenue, Halifax, N.S.

Research in Family Medicine:
Newfoundland Commentary

Melvin L. Parsons, M.D.
Glovertown, Nfld.

Summary: *Some aspects of research in family practice in Newfoundland are discussed. Three research projects have been organized, and the lessons drawn from these are analyzed. The methodology of such research is also discussed in relation to certain features peculiar to the local communities. The value of research in family practice is considered, and the contribution to the College of Family Physicians in association with the University is emphasized.*

Conforming to the national pattern, those of us interested in research are beset by familiar growing pains as we endeavour to formulate and develop a research faculty in the Newfoundland Chapter of the College of Family Physicians of Canada. Hopefully to endure, grow, and to contribute something of value, this effort is exasperating at times. Belonging to a profession which can accept without a twitter the awesome pronouncement that medical knowledge is doubling within each decade, we surely must be the most flexibly-minded of men; discarding much of what we know, we relearn the new with equal ease, until the plea goes round for converts to the cause: then we can be more aloof, dogmatic and conservative than a Scottish Presbyterian! But patience is the key: "tho' Life is short, the Art is long."

Development of medical care in Newfoundland

Newfoundland has certain unique features that should be noted for an understanding of the scene. The population of the island of Newfoundland (42,000 sq.mi.) and Labrador (110,000 sq.mi.) is about one-half million, of whom about 25,000 live in Labrador. We joined the federal Medicare program April 1, 1969 with our Medical Care Plan (M.C.P.), which pays 90% of the provincial fee schedule and, as plans go, seems as good as most and better than some. Before Medicare, 45% of our people, mostly rural, were covered by our own plan in the Cottage Hospital Service (C.H.S.). Approximately 85 doctors, utilizing 20 hospitals averaging 25 beds each, provided the C.H.S. with a very broad general practice. Cases needing specialist care were referred to larger centres. All C.H.S. doctors received salaries before Medicare and nearly all have elected to remain on salary under special arrangements with M.C.P. since Medicare started. As predicted, Medicare has not significantly increased the workload of doctors in these formerly C.H.S. areas.

Research Projects

1. Transatlantic Morbidity Study

Our first significant project under the aegis of the C.F.P.C. (Nfld. Chapter) and the Royal College of General Practitioners (U.K.) involved a joint "Transatlantic Morbidity Study". It took place between June 1966 and June 1967. Organized by Dr. R. J. F. H. Pinsent, R.C.G.P., the team consisted of 7 practitioners from the counties of Cork and Waterford in Ireland, 15 from the West Country of England, and in Newfoundland, led by Dr. John Ross, 23 doctors covering eight practices. This was designed primarily to explore methods of international collaboration. Recording in Newfoundland was done using the unmodified E-Book and Diagnostic Index of the Royal College of General Practitioners (U.K.). Variations in the demand and emphasis on different aspects of health care were revealed; these largely depended on local custom and culture.

2. Study of Morbidity in Newfoundland

A Study of Conspicuous Morbidity, over a period of 2½ years was completed in June 1968. Many of the same workers took part, and the E-Book method was again used. Under the direction of Dr. Henry Kedward, the Department of Social Medicine at Memorial University transferred the data to punch cards and compiled by computer.

These projects, our first foray into organized research, were valuable lessons, which led to many conclusions and opinions. The E-Book, a well-designed simple method of recording under diagnostic headings forms a continuous record of patient care, in loose-leaf form. It provides a ready cross-reference to the clinical records of the entire patient population as it accumulates data. In fact, one might say that the E-Book grows on one the more it is used and has enough intrinsic value, therefore, to warrant its continuation. Other advantages of the E-Book are: *i.* world-wide usage, allowing international collaboration; *ii.* its sponsorship and revision by the R.C.G.P. (U.K.); *iii.* the encouragement of the usage and standardization of disease classification in a form particularly applicable to general and family practice; *iv.* its simplicity, and hence, popularity in the recording morbidity and epidemiological data in family practice; and *v.* the provision of spare columns for recording items of individual concern.

Two weaknesses of the E-Book were apparent, however: first, the classification of disease used by the British College has too many discrepancies to suit the peculiarities of the Canadian setting, and second, records of the E-Book must be transcribed to punch cards before they can be compiled by computer, and apparently this cost is high, both in time and money.

The main lessons learned were, however, not related to the E-Book. These were the failure to prepare and maintain an Age-Sex Register in each practice area, and the lack of an organized research committee. Without such a register, the population could not be defined, so incidence rates of illness were not valid; a register is necessary to define the healthy people who seldom or never become patients, and a detailed study of what keeps certain people healthy is a fascinating study in itself that is long overdue. An organized research committee which meets regularly and often can harmonize and standardize the conventions in use, and boost morale when spirits sag.

3. Morbidity Study in Newfoundland, 1970

In 1968, again under the direction of Dr. Kedward, we planned further morbidity studies. At the start, a steering committee with representatives from the Department of Health, Medical Faculty, Research Unit of the Medical School and the Research Committee of the C.F.P.C. (Nfld.) was formed.

The proposed study will be confined to four areas only: a two-man established practice in a middle-class urban area, a one-man practice just being established in an urban renewal area, and two one-man rural practices. The doctors in the first two areas practice on a fee-for-service basis while in the other two areas the practitioners work on a salary basis.

Age-Sex Registers for each area were first compiled. This involved much unexpected work, mainly in attempting to track down the names and dates of birth of family members who had never visited the doctor. Useful sources of information in obtaining this data were church rolls kept by clergy, school nurse files, well-baby clinic records and, as a last resort, the telephone. The Age-Sex Register is incidentally an aid in finding matched controls for double-blind studies.

For recording data, the E-Book is to be replaced by a special form, a separate one being required for each separate diagnosis in the same patient. This form will record M.C.P. insurance numbers, the Diagnostic Code, referral status, sex, age, area, doctor, date of initial visit, and it has space in which to record up to twenty consultations for each diagnosis. Individual interests may also be followed by filling in other, optional, spaces. This form has been designed in order to allow scanning by the same optical scanner and computer used by the Medicare plan; it will avoid the human error, high cost and time involved in the punch-card operation required by the E-Book, and it will also simplify compilation and analysis. The form remains with the clinical record but, when necessary, it may be taken from the clinical records, quickly scanned, and returned.

One drawback of this method which is proving troublesome is the necessity of using the provincial medicare plan's 188-listed diagnostic code blocks. This list is necessary for utilization of medicare data and evaluation of various aspects of medicare. However, this list is hospital-oriented, many of the diagnostic categories relating to out-patients only are covered by catch-all categories. By adding a fourth code block to the record form, and by using the five letters and ten numbers discerned by the optical scanner, fifteen subdivisions of each of the 188 code blocks are created in such a way that linkage with the standard 188 three-block records of medicare is still possible. Subdividing this list is time-consuming and difficult; at once we are trying to use all the usable categories from the E-Book Index to avoid too many yet have enough.

The optical scanner method has some disadvantages: the forms must be carefully filled in using an HB pencil to prevent rejection by the scanner, the need for a separate form for each diagnosis can lead to growth of hefty clinical files, and the method does not permit cross-indexing of the clinical records as does the E-Book; thus it is less interesting as a continuing project and less likely to win converts to the system.

All of these criticisms serve to remind us of a growing problem of this computer age: the subtle pressures which slowly seem to be hemming us in and which mould men to fit the machine, rather than vice versa. A minor gain: if one cannot play bridge now, at least one will learn readily how to shuffle the cards.

Conclusion

Newfoundland rural communities are probably the last areas remaining in Canada where we can find groups of people who have lived for several generations largely undiluted by outside blood lines and cultural patterns. But this is changing fast. In our projected study we aim to investigate patterns of health and disease that may be peculiar to such isolated populations. Of course, the saddest fact in the history of general practice, indeed even of medicine as a whole, is that many most valuable observations never become recorded, largely because they seem so commonplace at the time. Making the individual aware of the fascination and value of recording such data is and ever will be our hardest task. Research, like poetry, while absolutely necessary at some point, at any given moment is considered a luxury, and like all luxuries gets short shrift in terms of time and money.

On the brighter side, however, we feel rather fortunate here in Newfoundland in that our new Medical School under Dean Rusted has as a primary goal the development of excellence in Family and Community Medicine. Assured of guidance and support, with men and money, the problem for the College seems to be to convince more of its members that research, apart from its value, can also be enjoyable; in fact, it can be one of the hyacinths that feed the soul". □

Family Medicine Training at Dalhousie

D. C. Brown, M.D., C.C.F.P.*
Halifax, N.S.

Summary: *The growth of medical knowledge and the development of many specialties, tending to lead to fragmentation of care, has created a demand for co-ordination of medical care and the need for many well-trained physicians with a "holistic" approach to medicine. The undergraduate and residency programs in family medicine at Dalhousie University are outlined, as are the objectives of training in family medicine.*

The tremendous growth of medical knowledge and the increasing complexity of present day life have led to the development of many new medical specialties and sub-specialties. With the greater complexity of health care, the responsibilities of the family physician—the "first-contact" physician—have become greater than ever. The family physician must be well versed in the latest advances and what is available for his patients; only thus can he correctly apply medical knowledge and so close the "availability gap".

The design and operation of a model of comprehensive general medical care is a part of the function of today's medical school, although the focus should rest mainly on teaching and research, and on innovation evaluation.[1] In Nova Scotia, Dalhousie University Medical School has recognized this in developing a postgraduate program of residency training in Family Practice, as well as allotting increased time in the undergraduate years to the family medicine curriculum.

Training for the medical student

The medical student is first introduced to a particular family when he is assigned a newborn infant at the beginning of the first year. He follows this infant for the whole year, making any home visits as part of the Normal Growth and Development course. The same child may be followed through the second year, as part of the Human Behaviour course, during which the student comes to understand more of human behaviour and family dynamics. During the third year, he is introduced to family medicine in the Comprehensive Health Care Project, a responsibility of the Department of Preventive Medicine. Each student is assigned a family and he functions as that family's physician for the full year; during this period at least six home visits must be made together with other visits as required by the family. The student is backed up by a team of consultants: a public health nurse co-ordinator, four social workers, dietetic interns, and four medical advisers, the last being local family physicians. A post-graduate nursing student is also assigned to each family, so that the medical and nursing students work as a team. Team conferences permit students to present their families' problems and to suggest solutions. The team plans a course of action, utilizing resources of the whole community, and consultants as indicated.

Robinson has remarked that "the first three years provide experiences restricted to a few patients. It is necessary for the student to feel what family practice is all about, to be involved in depth, just as he is involved in depth in other clinical fields."[2] Starting in June 1970, with the extended clinical clerkship of 11 months, each fourth-year student will have one additional month in family medicine. This will consist of two weeks in the Family Practice Teaching Unit (FPTU), the other two being spent with family physician preceptors, in rural or urban practice as desired. In addition to the scheduled month in family medicine, the fourth-year student may also take an extra month, his elective, in family practice, if he wishes.

The Residency program

The Division of Family Medicine and the affiliated hospitals of Dalhousie University have made it possible for the postgraduate to continue his learning experience in a residency program. The first year is equivalent to the Dalhousie rotating internship. The second centres about continuing comprehensive ambulatory patient care in a family practice teaching unit; experience in hospital emergency and outpatient departments is also included. The resident will be responsible for the care of any of his patients who require hospitalization. This year will provide six weeks' experience with a family physician.

Thus, family medicine has become an academic discipline, involving teaching as well as patient-care; it is a specialty in its own right. A reflection of this is the fact that certification in family medicine is now a reality.

Objectives of the residency program

There are three main objectives of this family medicine residency:

i. Primarily, to develop a doctor possessing broad clinical excellence, instilled with the sense of responsibility for, and knowledge in, the continuing health management of the entire family. Personal efficiency and the effective use of all community and ancillary health services is the goal. The resi-

*Director of Residency Training in Family Practice, Dalhousie University.

dent should develop an awareness that this training is but one step in a life-long learning process.

ii. To provide a stimulus to research in family practice. The student should appreciate the value of basic information, and the application of a scientific approach to the specific problems of family practice.

iii. "To create a core of specifically trained family practitioners oriented to change in community and patient needs, and best suited for practice in the Maritimes."[3]

Emphasis is placed on ambulatory patient care, and experience in emergency and outpatient departments, in family care, and in the team approach as studied in the FPTU are basic aspects of the program.

The FPTU is somewhat similar to a group practice, especially designed for teaching, and it is staffed by full-time and part-time family physicians who are members of the Faculty of Medicine. Effort is made to have the resident responsible for the total medical needs of a group of families throughout his training. Regular office hours are conducted by the resident in the FPTU. Specialty teachers from the major clinical departments are incorporated into the program as consultants to the unit, and as teachers. "It is hoped that the resident will see in the operational model how best to work with consultants, and to learn the value of an early and continuing consultation".[4]

The team approach is fundamental; it is through the incorporation of specialists in allied health fields into his work that the resident will learn proper techniques of delegation, consultation, and referral. He will learn to use his time more effectively, to become proficient in administration, and to develop efficient patterns of practice.

Each resident will return to the FPTU once weekly while on all the rotations, except when he is on the FPTU full-time. "It will be emphasized that common disorders are common and rare disorders are rare. Granted it is necessary to recognize the uncommon conditions so that proper care may be provided."[5] Thus students should become proficient in the day-to-day problems that are encountered in practice. There is a need to shift the emphasis from studying and treating the patient in hospital to care of the family member in his own environment.

Weekly conferences, having the format of interdepartmental meetings, will be held with members of the different departments attending as the clinical cases dictate. Conferences and seminars on subjects not normally taught to physicians will also be arranged, for an understanding of such aspects as the mechanics of practice, legal matters, and dental problems.

The product—the family physician

Carmichael has stated that "The definition of the family physician has four components: *i.* A continuing relationship with an individual patient; *ii.* a practice in which the family is the unit of care, not the individual; *iii.* a 'tenured' relationship in which the doctor and the family members have mutually agreed obligations; and, *iv.* an emphasis on health maintenance and prevention of disease."[6] Indeed, continuing comprehensive tenured health care of the whole family, the "holistic" approach, does seem to be the essence of family practice.

With the development of these programs, the practising physician will be able to attend an intensive course of residency training lasting from six months to one year. In order to make this possible, so that the practising physician could leave his practice cared for, an arrangement similar to a sabbatical year would be necessary. "In order to make this operational, . . . it would be necessary to grant 'true sabbatical' to practicing doctors: that is, one full year of study after every five or six years of practice. Coupled with this would be a program for on-the-job training—family practitioners taking their sabbatical would have their practices 'covered' by doctors who have just qualified for licence to practice"[7] or who have just completed their residency program.

Considering health services throughout the world, it does seem, as Rice has indicated, that the high standard of Canadian medicine will best be maintained by the more specific and extended training of the general practitioner-family physician.[8]

Conclusion

The Family Practice Teaching Unit will be the centre and main teaching facility of the clinical clerkship and of the residency program in family medicine. The *raison d'etre* of such a medical unit was well expressed as follows: "Just as patients wilh hematological problems are required for teaching hematology, and patients with neurological problems are required for teaching neurology, so families are necessary for teaching Family Medicine."[9] Such a unit can provide a framework within which it is possible to demonstrate to the students continuing comprehensive health care, rather than episodic disease-oriented care. □

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We Salute:

The Family Physician

For years—the term itself dates from the beginning of the 19th century—the general practitioner has borne the brunt of the responsibility for providing medical care to the community. The respected image of the "G.P." has been built up over the years, as the very real relationship between patient and doctor bears witness. A vocation has been the satisfying reward for a life, the personal and family inconveniences of which have been accepted in the knowledge that community service is of primary importance.

Today the newer name of family physician connotes perhaps newer ideals and a new frame of reference. The family physician is faced with many new challenges and responsibilities. Several aspects of medicine in today's society are likely to make the practitioner's job a responsible, yet also perhaps a frustrating, one.

First, in an increasingly urbanized age, the era of solo practice seems to be at an end. The admirable single-handed doctor has greater difficulty in giving the modern brand of medical care to his patients 24 hours each day. Hence the development of group practice. Second, the advances of medicine in a technological society make it difficult for the family physician to master all the specialized aspects of health and disease. Hence the sensible growth of clinics and groups, in which the integration of specialized interests and knowledge can be applied to medical care; ready access to specialists and modern diagnostic aids has become essential. Third, the public is well aware of his right to advanced care; and since the government—that is, the patient-taxpayer—now dictates to a greater degree what medical care should be like, the demands on the physician have significantly increased. Hence the talk of medical assistants, which certainly has advantages in preserving a doctor's leisure and sanity, as well as facilitating the delivery of medical care. Fourth, the emphasis rests, in this urbanized and technological society, on the relationship existing between man and his environment. "Physical" and "organic" illness to a large extent have been conquered; behavioural and environmental stress are predominant.

The family physician is clearly faced with a challenge which is greater than ever, in his responsibility of providing good medical care to the maximum number of people under the conditions developing today. Family practice is no sinecure. There will be a need for a specialized training, for the provision and integration of medical care; but the need for a humane and a holistic understanding of man, and medicine, and society are greater than ever. To this end we salute the family physician. □

D.A.E.S.

NEW MEMBERS

The Physicians listed below have joined The Medical Society of Nova Scotia between February 1, 1970 and May 31, 1970. A most cordial welcome is extended from the Society.

Dr. J. C. Acres	Musquodoboit Harbour, N.S.	Dr. S. G. Lannon	Halifax, N.S.
Dr. Mohammad Ali	St. Peter's, N.S.	Dr. G. A. Lawrence	Amherst, N.S.
Dr. M. R. Banks	Halifax, N.S.	Dr. Mary MacDonald	Halifax, N.S.
Dr. G. S. Bapat	Lunenburg, N.S.	Dr. H. F. L. Pollett	Halifax, N.S.
Dr. Chung-Chun Chan	Halifax, N.S.	Dr. L. Rathi	Dartmouth, N.S.
Dr. M. T. Danak	Sydney Mines, N.S.	Dr. W. M. D. Robertson	Dartmouth, N.S.
Dr. G. H. Eow	Yarmouth, N.S.	Dr. R. D. Saxon	Antigonish, N.S.
Dr. B. J. S. Grogono	Halifax, N.S.	Dr. F. E. Slipp	Truro, N.S.
Dr. L. Gursahani	Sydney, N.S.	Dr. B. Solaric	Halifax, N.S.
Dr. C. H. Hines	Cheverie, N.S.	Dr. R. D. Stewart	Sydney Mines, N.S.
Dr. P. D. Jackson	Sydney River, N.S.	Dr. O. R. Stone	Bridgetown, N.S.
Dr. E. G. Kelley	Amherst, N.S.	Dr. R. Sunaric	Lunenburg, N.S.
Dr. D. Kernohan	Parrsboro, N.S.	Dr. J. G. Thomson	Halifax, N.S.
Dr. J. R. Kerr	Annapolis Royal, N.S.	Dr. Florence Walling	Halifax, N.S.
		Dr. C. R. Wyman	Hebron, N.S.

A Summary of Symposium on Breast Cancer 1970*

Prepared by J. W. Meakin, M.D. F.R.C.P.(C).†

The incidence of carcinoma of the breast appears to be rising, while the mortality rate is falling. Genetic factors may play a role in this disease since it occurs more frequently in some families. There is also evidence to suggest that endogenous hormonal factors, and that environmental influences which for example may be hormonal, chemical, viral, may play a significant role in the development of the disease. Prevention may become possible if causative factors can be accurately identified[1,2,3].

Early detection of carcinoma of the breast may be responsible for improving mortality rates. Clinically, it is important to remember that pain may be the first symptom of carcinoma of the breast. Lumps must be considered to be malignant until proved otherwise. Well done mammography is identifying cases at an earlier stage. Thermography is progressively developing to a level where it holds promise as an additional tool to clinical examination and mammography in early detection. A monthly self-examination of the breast, and yearly medical examination of high-risk patients with physical examination, mammography, and in the future thermography, now appear desirable.

The optimal combination of surgery and irradiation in the primary treatment of carcinoma of the breast remains ambiguous. It would appear that there is a trend toward more conservative management of these patients[4,5]. The place of adjuvant therapy by hormonal or chemotherapeutic means remains ambiguous[5,6,7]. There is an obvious need for further, well-controlled, clinical trials in these areas. The results should be considered in terms of survival curves rather than at single points in time. The morbidity of primary treatment (e.g., lymphoedema) must be considered, in addition to its effect on mortality.

The assessment of patients with recurrent disease can undoubtedly be improved, using a variety of techniques, including isotope scanning (e.g., bone scans may show up a bone lesion that is not apparent on x-ray if there is reason to believe that such a lesion exists because of pain, etc.). The treatment of recurrent disease still cannot be considered curative, but useful periods of control can be achieved by hormonal means. The principal need in the hormonal treatment of recurrent carcinoma of the breast is for tests to discriminate between those patients with hormone-dependent disease and those with autonomous disease. Chemotherapy can control disease in some patients, but generally is not as useful as hormonal treatment. There is an obvious need for better chemotherapeutic agents. A number of specific complications of recurrent carcinoma of the breast, such as recurrent pleural effusion, hypercalcemia, and the repair of pathological fractures, were considered. Recurrent carcinoma of the breast is not always quickly fatal but may be compatible with a number of years of useful life, so that careful consideration of the appropriate therapy at this stage of the disease is imperative[8]. □

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*Symposium organized by Department of Continuing Medical Education, Dalhousie University, Halifax, N.S., March 6-7, 1970.

†Assistant Professor of Medicine, University of Toronto.

Toward Control of Viral Infections of Man†

Summary: *Of the available approaches to the control of infections due to viruses, the greatest advances have been made in the development of vaccines, but other avenues are also open. Progress to date and problems yet to be overcome are reviewed.*

There are today three possible approaches to the control of infection caused by viruses: immunologic (vaccines), host resistance (interferon), and chemical (drugs).

The most effective and economically efficient control procedure attempted to date is specific immunization by vaccines from either live or killed viruses. The latter may be made with adjuvants which enhance the immune response. Human immune globulins are of limited usefulness in the control of viral infections.

A brief review of some of the developments toward protection against viral infection follows:

Smallpox vaccine has been the foundation for the vaccination concept. With gradual improvement in its quality and purity, today this vaccine is bacteriologically sterile and its potency is preserved by drying.

The second viral vaccine to be developed was against *rabies.* Until recently it was a crude preparation, but propagation of the virus in cell cultures has made possible the production of highly purified killed-virus and attenuated live-virus vaccines for experimental use.

The *yellow fever* virus is the only one of 230 arboviruses that has yielded satisfactorily to vaccine control.

Influenza A & B in the early 1940's were the first of the respiratory virus vaccines. Influenza vaccine may effect a reduction in illness of 75 to 90 per cent or more. However, a near-total antigenic alteration tends to occur in influenza A virus about every 10 years and renders the previous vaccine useless. An urgent need is for a vaccine that provides protection against a number of viral strains.

The live-virus approach against *respiratory syncytial virus* has been explored, but to date attenuation of the virus has been inadequate.

Polio Vaccines

Reduction of *poliomyelitis* to insignificant levels in many countries speaks for the effectiveness of both live- and killed-virus vaccines. Live vaccine has many advantages, but low effectiveness has been reported in some tropical areas where improved living conditions have delayed the child's first experience with the virus to an older age than formerly. Continuing infection of the enteric tract with a multiplicity of indigenous enteroviruses may interfere with vaccination by preventing growth of the vaccine strains.

Work on vaccines for the three myxovirus infections of childhood—*measles, mumps,* and *rubella*—is in progress. Extensive and proper administration of vaccines against these diseases should result in their near elimination from the United States within a few years.

With the availability of new viral vaccines and the expectation of others in the near future, methods must be developed to simplify administration and to reduce costs.

The use of adjuvants should make it possible to achieve a greater and longer-lasting immunity with a smaller antigenic mass and fewer doses than with aqueous material.

Host Resistance

For more than three decades it has been known that infection with one virus may limit or exclude infection with a second, unrelated virus. This is called the interference phenomenon, which has been shown to be mediated by a protein of low molecular weight, called interferon. It is producted by virus-infected cells and protects new and uninfected cells from viral infection. Thus, interferon, rather than the conventional antibody immune mechanisms, may be responsible for recovery from viral infections in its early stages.

Though active to some degree in experimental tests, interferon prepared in cells outside the body has not achieved practical importance. The alternative approach is use of a safe and effective substance to stimulate the body to produce and distribute its own endogenous interferon. No substance so far tried has as yet proved satisfactory.

Recent research has led to the discovery that certain double-stranded ribonucleic acids are highly active in inducing interferon and host resistance both in animals and in cells in culture. Possibly the presence of a form of viral ribonucleic acid provides an "alert" or "alarm" reaction in the cell, causing it to make interferon.

The possibility of using interferon inducers in human and animal medicine is being actively explored. The interferon mechanism, with its broad spectrum of

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antiviral activity, gives hope for eventual prophylactic control of those viral infections in which the number of serotypes is too great to control by vaccines. An example is the common cold.

Intensive search for chemical substances for preventing or treating viral diseases has not thus far been rewarding. Vaccines and interferon are prophylactic and do little to aid the cell once it is infected. At present the best hope for the cure of viral infection seems to rest on the chemical approach.

Research in viral chemotherapy has not yet achieved the status of an exact science, hence random screening as well as rational approaches will probably continue to be used. Studies may not be limited to compounds which are nontoxic for cells; rather, the specific antiviral and anticellular activities of a number of substances may be defined in the hope that this may lead to synthesis of nontoxic antiviral compounds on a rational basis.

Team Play Needed

The development of any measure for the control of viral disease, whether it be by immunological, chemical, or host-resistance procedure, is necessarily a slow and painstaking process for which a sophisticated technology must be evolved and a large body of information accumulated. The overall achievement requires the cooperative team play of a wide variety of disciplines, including at least the fields of virology, cell biology, biochemistry, biophysics, pathology, clinical medicine, epidemiology, and applied biology, and, of course, a large outlay of funds.

It is possible that viruses may play a role in the vast majority of the illnesses of mankind. The degree to which viral vaccines may prevent such illnesses remains to be seen. Meantime, it seems possible that widespread use of existing and yet-to-be-developed vaccines may eliminate, or reduce, the future incidence of illnesses in which a viral role is not even suspect at present. □

FOIL CARD SYSTEM FOR IMPRINTING MSI CLAIM CARDS

A new product has arrived on the market which should be of interest to doctors who want to reduce the amount of time spent by their secretaries in filling out MSI claim cards and correcting errors in recording numbers and names.

The Foil Card System involves the use of a card containing a thin metal foil which may be embossed on an ordinary electric typewriter. The secretary types the name of the insuring agency, the group number, the MSI number, subscriber's name, patient's first name, age, sex and relationship to the subscriber on the foil in a manner which could be made to correspond with an MSI card.

A foil card is prepared for each patient and is retained in the doctor's office (if given to patients, cards would be lost, mislaid or forgotten in many instances). When the patient receives medical services, his card and a blank MSI card are inserted in the desk top imprinter (about the same size as those used in gas stations) and with one stroke, the basic information referred to above is printed on the claim card. A duplicate MSI card used for accounts receivable control purposes can be imprinted at the same time if desired.

The concept isn't new; plastic credit cards have been with us for a long time, but they couldn't be created on a typewriter. The foil cards appear to be somewhat flimsy but they are virtually indestructible. The imprinter requires no service except the changing of a ribbon after 10,000 impressions.

What does this all cost? The foil cards cost 7½¢ each; assuming a patient load of 2,000 people and ignoring the cost of the secretary's time to prepare the cards, the initial outlay to emboss the foil cards would be $157.50 (taxes included). The imprinter costs $325.00 plus provincial hospital tax or rents for $8.95 per month on a five-year lease. The average electric typewriter costs $550.00.

The MSI/Medical Society Committee dealing with this type of subject is prepared to develop a modified MSI card to permit use of the imprinter, should response from doctors indicate a significant interest. Your comments should be directed to your Branch Secretary or the Medical Society office in Halifax. □

APPRECIATION

Dr. Adrian MacKenzie

The passing of Dr. Adrian Mackenzie has left a void that will be difficult to fill in the Halifax medical community.

"Ad", as he was known to most uf us, typified what family life is all about and at the same time commanded the respect of his colleagues for his ability, integrity, and love for medicine. Born in Stellarton, N.S., the son of Mr. and Mrs. Murdock Mackenzie, who survive him, Adrian served overseas during the Second World War. Later he proved his academic ability at Dalhousie and graduated M.D., C.M. in 1954. Following studies in pathology at Dalhousie University and at Montreal Children's Hospital, he returned to Halifax. Appointed head of clinical chemistry at Dalhousie University in 1960, he developed facilities at the Pathology Institute in association with Victoria General Hospital, which are second to none in North America.

Adrian married Alison Aucoin of Glace Bay. He is survived by her and his seven children, Michael, John, Leo, Rosemary, Gregory, Paul and Audrey, to all of whom he exemplified Christian living. He lived life as it should be lived; he was both humanitarian and realistic, and he could face life with objectivity and humility. The medical community has in Adrian lost a sincere, dedicated, and respected confrere.

To his family the Medical Society of Nova Scotia expresses its heartfelt and sincere sympathy. □

K.P.S.

Postpartum Hemorrhage†

Maternal Mortality Studies*

Summary: *A maternal death was reviewed by the Provincial Committee on Maternal Welfare. The cause of death was postpartum hemorrhage. The preventable factors are discussed.*

A 31-year-old married white woman was pregnant for the fifth time and her expected date of confinement was March 11, 1963. Her four previous pregnancies were uneventful. When first seen by the attending physician at 22 weeks of pregnancy, a general physical examination was normal and the pelvis was classified clinically as gynecoid. The hemoglobin (Hb.) was 12 g. %, the blood group was A, the Rhesus factor was positive and the blood Wassermann was negative.

She next visited the attending physician when she was 36 weeks pregnant. She had gained 10 lb. since the first visit, the blood pressure was 145/90 mm. Hg, the Hb. was 10 g. %, the urine showed three-plus albumin and both lower extremities had been edematous for three weeks prior to this second office visit. She was admitted to hospital the same day because of the pre-eclampsia.

When admitted to hospital her temperature was 99° F., the pulse rate was 100 per minute, the respirations were 20 per minute, the blood pressure was 145/90 mm. Hg and the membranes were intact. On radiographic examination of the abdomen following hospital admission, twins were demonstrated. She was placed on 500 mg. of chlorothiazide (Diuril) daily, ½ grain of phenobarbital three times daily and 15 grains of ferrous gluconate (Fergon) daily. After the patient was admitted to hospital the attending physician had to leave town on business and he transferred his patient to a colleague for further care.

The membranes ruptured spontaneously 15 hours after hospital admission and labour became established. The cervix was fully dilated one and one-half hours after the onset of labour, and 25 minutes later a living 5 lb. 2 oz. male infant was delivered spontaneously as an occiput anterior. The membranes of the second twin ruptured spontaneously 20 minutes after the birth of the first twin and the second twin was presenting as a transverse lie. The blood pressure dropped to 110/70 mm. Hg and the fetal heart sounds were not heard. An internal podalic version was attempted and failed 80 minutes after the delivery of the first twin. A 4 lb. 4 oz. stillborn female twin was delivered by high forceps, 20 minutes after the failed version.

One ampoule of oxytocin (Pitocin) was given intramuscularly and an intravenous infusion of 5% glucose in water was started after the delivery of the second twin. Both placentae were expelled spontaneously five minutes later. The first placenta was complete while the second placenta appeared to have incomplete membranes After the delivery of the placentae the patient was given 0.25 mg. of ergometrine maleate (Ergometrine) intramuscularly but the fundus remained boggy and the patient bled profusely. Ten minutes later 0.25 mg. of ergometrine maleate was repeated intramuscularly. The blood pressure dropped to 80/40 mm. Hg and the pulse rose to 120 per minute. Twenty-five minutes later a second ampoule of oxytocin was given intramuscularly and the blood pressure dropped to 70/40 mm. Hg. One hour after the delivery of the second twin 2 c.c. of levarterenol (Levophed) was added to the intravenous drip. A consultant obstetrician performed a vaginal examination under anesthesia without exploring the uterine cavity. A third ampoule of oxytocin was administered intravenously and the uterus was compressed bimanually; however, the fundus remained soft.

Two hours after the delivery of the second twin a blood transfusion of 500 c.c. was started. The patient continued to bleed excessively; the blood pressure dropped to 40/0 mm. Hg and she was given 100 mg. of hydrocortisone (Solu-Cortef) intravenously. Two and one-half hours after the delivery of the second twin, a second blood transfusion of 500 c.c. was started, 0.5 mg. of ergometrine maleate was given intramuscularly and 100 mg. of hydrocortisone was given intravenously. The patient continued to bleed heavily and the fundus remained boggy.

Three hours after delivery she was given 20 mg. of conjugated estrogens (Premarin) intravenously, 10 units of oxytocin were injected into the myometrium and two additional units of whole blood were given intravenously. The patient received 4 c.c. of levarterenol in 500 c.c. of 6% solution of dextran in 5% dextrose (Dextraven) intravenously four hours post partum. Despite these resuscitative measures and continuous bimanual compression of the atonic uterus, the patient continued to bleed vaginally and she died five hours after the delivery of the second twin.

An autopsy was not performed. The cause of death as listed by the attending physician was postpartum hemorrhage and uterine atony.

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†Reprinted by permission of C.M.A. Committee on Maternal Welfare, and reproduced here at the request of the Committee on Maternal and Perinatal Health, Medical Society of Nova Scotia.

*From C.M.A.J. **94**: 656, 1966, by kind permission, Editor, *Canadian Medical Journal*.

Decision of Committee on Maternal Welfare

The conclusions reached by the Provincial Committee on Maternal Welfare after a review of the case were as follows: "This was a preventable direct maternal death due to postpartum hemorrhage. The cause of the postpartum bleeding was not definitely established, as the uterine cavity was not explored and an autopsy was not performed. Some members of the committee felt that the patient may have had a ruptured uterus as a result of the attempted internal podalic version and/or the use of high forceps in the delivery of the second twin. The preventable professional factors are: There was delay in recognizing the transverse presentation of the second twin and also a very prolonged delay (100 minutes) between the delivery of the first and second twin. High forceps were used to deliver the second twin. The obstetrical consultant failed to examine the entire birth canal to rule out a ruptured uterus and/or retained placental fragments. There was insufficient blood replacement and a hysterectomy was not attempted despite a fatal postpartum hemorrhage. There was also a preventable patient factor in that the patient did not seek adequate prenatal care. This maternal death is considered to be ideally 'preventable' under the terms of reference of the Provincial Maternal Welfare Committee and there is no implication of any negligence."

Discussion

This patient had an anemia of 10 g. %, pre-eclampsia and a twin pregnancy. With these three complications of pregnancy, postpartum hemorrhage should have been anticipated and blood for transfusion made available for the delivery.

There was a 20-minute interval between the birth of the first twin and the spontaneous rupture of the membranes of the second twin and the discovery of the transverse lie of the second twin. There was a further 60-minute delay between the rupture of the membranes of the second twin and the failed internal podalic version of the second twin. The delay of one hour between the rupture of the membranes of the second sac and the failed version resulted in the loss of amniotic fluid and the second twin became trapped by the contracting uterus. A Cesarean section at this time was indicated. Delivery of the second twin was accomplished by high forceps. The utilization of high forceps is condemned by all obstetrical authorities because of the resulting marked fetal and maternal trauma.

The optimal time for delivery of the second twin is 15 minutes after the delivery of the first twin. The position of the second twin must be determined immediately after the delivery of the first twin and corrected where possible by external version. If this is unsuccessful the membranes of the second twin should be ruptured, and in cases with a persistent transverse lie an immediate internal podalic version and breech extraction under general anesthesia is indicated. If an internal podalic version is necessary, it is most important that it be done immediately after the rupture of the membranes of the second twin. This is one of the few remaining acceptable indications for an attempted internal podalic version; however, if the attempted internal podalic version is not immediately successful after the rupture of the membranes of the second twin which is presenting as a transverse lie, an immediate Cesarean section is recommended. Internal podalic version is a very hazardous obstetrical maneuver because of the real danger of rupturing the uterus. After the maneuver has been performed, an immediate manual exploration of the entire birth canal is mandatory to rule out a ruptured uterus and lacerations of the cervix and vagina.

The obstetrical consultant in this case did not examine the patient until one hour after the delivery of the second twin, when the patient was bleeding excessively. He examined the vagina and the cervix under general anesthesia, but he did not explore the uterine cavity to exclude retained placental fragments or a ruptured uterus. He should have been consulted when the internal podalic version failed. When severe postpartum hemorrhage occurs, the entire birth canal must be examined immediately (including manual exploration of the uterine cavity) to determine the cause of the bleeding.

This patient received a total of 2000 c.c. of whole blood through one venipuncture. It is imperative when severe postpartum hemorrhage occurs that massive blood replacement using positive pressure through several portals of entry is utilized in the resuscitation of the patient. When other methods of the control of postpartum hemorrhage are ineffective, an emergency hysterectomy is indicated. □

Around the Hospitals:

St. Martha's Hospital, Antigonish

A rented cottage on West Street in Antigonish with 6 beds, an operating room and a kitchen constituted St. Martha's Hospital on a June day in 1906 when it first opened its doors. At that time there was no hospital to serve the area from Glace Bay to Antigonish. The Sisters of St. Martha, a congregation established in 1900, responded to the need of the people in the community and raised the sum of five hundred dollars to set up a hospital. Its reputation was made when three months later an epidemic of typhoid broke out in the area and eighteen out of nineteen cases were returned to health. In the first year 117 patients were admitted.

Within a year more space was needed and the present site of St. Martha's Hospital was purchased; the renovated Harris residence could accommodate 40 patients. The present brick structure (old portion) was built in 1925 and finally in 1951 three new wings were added.

St. Martha's was one of the original hospitals to adopt the concept of the hospital as a community health centre. Offices for doctors and Department of Public Health officials were located in one of the wings in 1951. Later the Eastern Counties Mental Health Centre was located in the hospital for treatment of outpatients and one unit of the hospital allocated for admission of psychiatric patients.

Education has kept pace with expansion of physical facilities. Most noteworthy has been affiliation with St. Francis Xavier University to enable students to pursue courses at the University leading to a Degree of B.Sc. in Nursing and a B.Sc. in Medical Technology. (The latter program has been temporarily discontinued). Nursing education has been revamped and a 2-year program was commenced in 1969. Patient-teaching is an integral part of the education program.

St. Martha's is a 200-bed regional hospital accepting referrals from physicians in Guysborough, Sherbrooke, Inverness, Port Hawkesbury, Mulgrave, Arichat, Cheticamp, and Canso.

Services supplied in 1969 exceeded any previous year:

In-Patients treated	5,153
Births	735
Out-Patients treated	8,385
Surgical operations performed	2,334
Medical Staff	22
All other personnel	275

As its inception was a response to the needs of the community for health care, so the present role of St. Martha's Hospital is seen as a response to the health needs of people in the area: not a static institution but one that is flexible and committed to meet changing health needs as they exist now and in future. □

S.A.C.M.

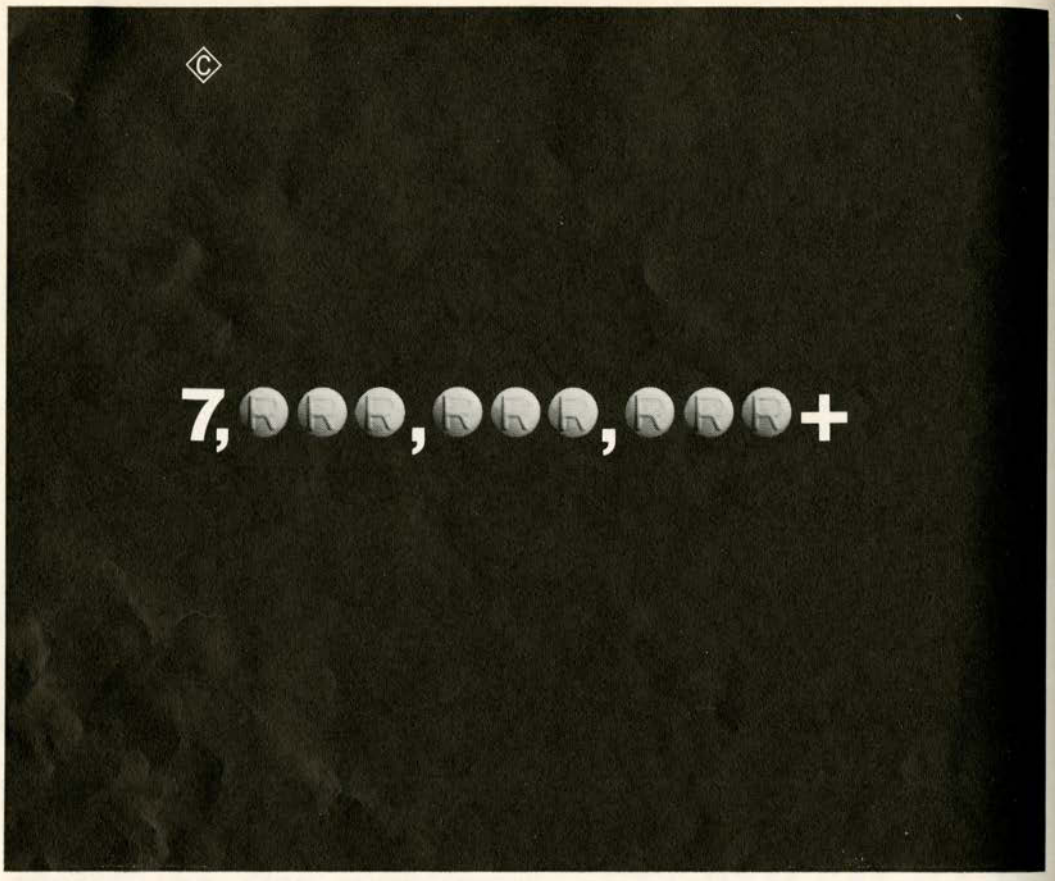
Public Health

The Committee on Public Health, reactivated following the last annual meeting of Council, is concerned with various aspects of public health in Nova Scotia. It should be made clear that it certainly avoids any of the functions of the Nova Scotia Department of Public Health. The main purpose of this committee is to enhance the understanding of matters of public health in general, as far as the members of the Society are concerned, to bring the Society's views before the non-medical public as occasion demands, and to inform the public on matters of public health.

Not surprisingly, the emphasis at present is on pollution. In fact, it was the passing of a resolution at Council in November 1969, which deplored the amount of air and water pollution in this province and urged all individuals and all levels of government to take preventive and corrective action, that led to the re-activation of this committee. During the last few months the focus has been on the present state of pollution, and on the need for effective standards and legislation to control pollution. An attempt has been made to amass information relating to pollution, particularly the medical aspects. It is hoped that a statement will be made available to both the Society and to government in the near future. The membership of this committee is sufficiently varied to approach this subject from different viewpoints. The members are: Dr. J. B. MacDonald, Stellarton (Chairman), Dr. J. R. Cameron (Atlantic Health Unit), Miss D. E. Fraser (Kellogg Librarian), Dr. A. C. Irwin (Preventive Medicine), Dr. H. D. Lavers (Truro), Dr. J. G. Ogden (Professor of Biology), Dr. D. A. E. Shephard (Halifax), and Mr. C. E. Tupper (Public Health Engineer). Some contact has been made with government and more is planned.

Other aspects of the public's health will also be considered from time to time. The aim is to provide a useful forum for discussion of as many different issues as demand discussion and action. □

J.B.M.



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[To Members of the Medical Society of Nova Scotia: In view of the advantages of a strong professional organization, kindly make this page available to a non-member associate.]

THE MEDICAL SOCIETY OF NOVA SCOTIA
APPLICATION FOR MEMBERSHIP

NAME ..... (Surname) (Given names)

ADDRESS .....

TELEPHONE NUMBER ..... DATE OF BIRTH .....

MEDICAL SCHOOL ..... DATE OF GRADUATION .....

LICENSURE PROVINCE ..... DATE ISSUED .....

OTHER DEGREES .....

POST GRADUATE TRAINING .....

.....

PRESENT TYPE OF PRACTICE .....

SECTIONS: Membership in the Society entitles you to make application for membership in the Section(s) of your choice. Please mark Section(s) you may be interested in.

- ☐ Anaesthesia
- ☐ General Practice
- ☐ Internal Medicine
- ☐ Ophthalmology and Otolaryngology
- ☐ Paediatrics
- ☐ Pathology
- ☐ Psychiatry
- ☐ Residents in Training
- ☐ Radiology
- ☐ Salaried physicians
- ☐ Surgery
- ☐ Urology
- ☐ Obs and Gyn.

ARE YOU A MEMBER OF A BRANCH SOCIETY? ..... WHICH BRANCH SOCIETY? .....

NAMES OF TWO SPONSORING MEMBERS OF THE MEDICAL SOCIETY OF NOVA SCOTIA .....

.....

REMITTANCE ENCLOSED (See over for details of membership) $.....

DATE ..... SIGNATURE .....

P.T.O.

MEMBERSHIP DUES

(Medical Society Fiscal and Membership year is October 1 — September 30)

	C.M.A.	*M.S. of N.S.*	*P.G. Levy*	*Total*
1st Year Practice	$ 18.00	$ 25.00	$ 10.00	$ 53.00
Ordinary	55.00	120.00	10.00	185.00
Post-Grad. Trainee	14.00	25.00	2.50	41.50
Post-Grad. Trainee (outside Canada)	36.00	25.00	——	61.00
Retired	5.00	10.00	——	15.00
Non-Res. inside Canada	——	20.00	——	20.00
Non-Res. outside Canada	36.00	25.00	——	61.00
Senior	——	——	——	——
Husband / Wife : First Year	30.00	40.00	20.00	90.00
Ordinary	83.00	200.00	20.00	303.00
Post-Grad.	21.00	35.00	5.00	61.00

Members are entitled to the following:

(a) Members receive the following:

Schedule of Fees (N.S.)
By-Laws (N.S.)
C.M.A. *Journal*
N.S. *Medical Bulletin*
Code of Ethics (C.M.A.)
C.M.A. Information Booklets

(b) Members are entitled to make application for:

North American Life Group Insurance
Mutual of Omaha Group Accident and Sickness Insurance
Mutual of Omaha Group Overhead Insurance
C.M.A. Retirement Savings Plan
C.M.A. Medical Equity Fund
Canadian Medical Protective Association

Information relative to items in (b) are forwarded to each new member.

PREPARATION OF PURE CRAP†

(Proposal for research contract in connection with the National Bureau of standards Program for the preparation of pure materials.)

It has been estimated that about 90% of the scientific complement of almost all scientific institutions is engaged in the processing of crap, and some scientists have placed this value at even higher levels[1]. Correspondingly, at least 90% of the world scientific literature can be regarded as describing systems or discussing problems generally within this subject area.

Crap is known to exist in great natural abundance[2,3]. Some edible forms of the material are known[2,3]. The metallic form has been reported to possess rather recalcitrant properties and to be of high rigidity[4]. Other forms appear to have a wide range of properties, of which the prominent features seem to be a lack of suitability or adaptability of the material as regards to any possible relevance or practical application[5].

Little work has been done on the purification of this material. This may be due to a lack of demand[6]. However, small amounts of crap have been purified in some laboratories[7]. Lately, there has been evidence of an increased demand for crap, particularly for distribution in high-ranking Government circles[8]. In view of this, it is felt that preparation of the pure material in large quantities might be worthwhile.

The preparation of pure crap requires rather large-scale planning and it is felt that organization of the project as follows will give the best results.

DETAILED PLANNING OF THE PROJECT:

Duration: 4 years.

The preparation of pure crap can be carried out at any Research Institute, particularly at Institutes which can provide the necessary large scale facilities.

Stage 1. A Pure Crap Advisory Committee should be set up, under the Chairmanship, possibly, of the Minister of Defense. Represented on the Committee should be the Ministers of Housing and Tourism, the Histadrut, the Kupat Cholim (Sick Fund), the Jewish Agency, the Keren Kayemet, and the Institute for Town Planning. This Committee should be guided by a Steering Committee (on which the Hotels & Restaurants Association should be represented) which should be affiliated to sub-committees dealing with systems analysis, radioactivity, automation, production quotas, industrial applications health hazards, co-ordinated directly by an Executive Board linked to the Prime Minister's Offce, consisting of 24 members. Appointment to the Board should be on an honorary basis and several of the staff of the Kicked Upstairs Institute[9] might well be requested to serve on this Board. Other committees should be set up to deal with particular aspects as they arise.

All aspects of the project must be subject to vetoing by the Foreign Office Authorization Agency.

Setting up of the various boards and committees, dealing with resignations, allocation of secretarial staff and setting up of liaison (and emergency break-down) procedures, ordering of tea-urns and crockery, should occupy the first year of the project.

Stage 2. Re-appointment to the committees and arbitration work should then occupy the second year. (Auxiliary psychiatrically trained consultants and industrial arbitration experts should be available, possibly a senior surgeon and one or two first aid men). During the third year, efforts should be made to recruit the technical staff and to set up the laboratory organization.

Technical Staff Requirements: To head the technical side of the project:

(1)—an *Administrator* is required. A suitable man might be seconded from the Prison Service, the Custom Service, or the Ministry of the Interior. Military training would be an asset. If the project is to succeed it is essential that the Administrative Director has enough experience to run it like a military unit or a Government office, since scientists are notoriously known to produce quantities of crap very efficiently in such atmospheres.

†M. Kaye: Reprinted by kind permission, Editor, *Journal of Irreproducible Results*, August 1968.

(2)—*Head Scientist.* The Head Scientist should be responsible to the Administrator, his 2 chief assistants, his office staff, the cleaning woman and through them, via the various committees to the Ministerial Advisory Committee (via the Steering Committee).

New appointees should be processed via the various official regulations and procedures for recruitment of scientists which assists in automatically selecting suitable candidates for work on crap (e.g. blood pressure is more important than academic qualifications *per se*).

(3)—*Senior Research Staff.* A high school education should be required, (or at least 10 years research experience preferably in crap processing).

Appointment of the technical staff, and re-arrangement of the appointment according to the request of uncles, old school pals, ex-army buddies etc. etc., who are senior executives in the various Ministries should take up the third year of the project.

The fourth year of the project will be occupied by preparation of reports and their discussion in the various Committees.

It is hoped that by the end of the Period, kilogram quantities of pure crap will be ready for stock piling.

Budget. The budget required is astronomical. The production costs per Kg. of pure crap have been estimated as high as $500,000. However, as most of the facilities are already available, it is felt that with the contribution of $2,000 (to cover the cost of publication of reports) from the sponsor, the project can be realized within existing frameworks. □

References

1. Personal communication: figures within the range 90-95% have been quoted by members of 8 scientific institutes, referring to the work of their colleagues.
2. A Roumanian restaurant on the Petah Tiqua Road, Tel-Aviv, displays a sign listing: "boiled crap, fried crap, stewed crap, baked crap"* (Try the fried).
3. A. M. Kaye, personal communication, e.g. "I'm starving—serve out the crap." However, see also: "You surely don't expect me to eat that crap?"
4. As, in the laying of pipes: "I can't get this crappy pipe to bend."
5. Personal communications, e.g. "You expect me to do anything with that crap?" However, it has been reported that crap output has been used as a basis for promoting of scientists to senior rank and a position with a peak of 0.3 cu.m. crap/year. Non-purified crap, of course.
6. James Cagney in *World of Gangsters* (1949). "Don't give me none of that crap." *ibid.* "I don't take no crap from anybody."
7. Several sources reporting on the reaction of Research Directors to annual reports: "This is pure, unadulterated crap."
8. Anonymous Ministry Official: "Don't bother to work out the figures, just give them some crap."
9. The setting up of a Kicked Upstairs Institute, to serve roughly the purpose of the British House of Lords, has been recommended by this author. The Institute would be staffed with scientists belonging to parties not in power, or those who had come into conflict with their superiors).

*They mean "carp".

Money Management Series

May saw the inauguration of a service much needed by the members of The Medical Society of Nova Scotia, when the initial presentations in a Money Management Series were held at Branch Meetings at Sydney, Amherst, Truro, and Dartmouth.

The average doctor has had little opportunity to understand the fine points of money management because of his very busy training period and an even busier professional work-load. Many doctors have been the proverbial "Patsy" in financial matters and, as a result, most doctors shy clear of approaches by ethical professional financial consultants and advisors. To counter this, the Society has developed a series of money management presentations as a plan of information and education. It is designed to provide members with guidance and knowledge to enable them to take advantage of the wide variety of excellent services available to any taker.

The Money Management Series will give Society members details of the principles involved in estate planning, investing, tax accounting, insurance, property management, etc. Specific advice will *not* be offered in any of these various fields. In all the presentations the guest speaker(s) will be a representative of, and chosen by, the related association.

The series will comprise sequence of presentations rotating through the branches. The first was made at four branches in May; the second will be given at these same branches in September; the third in February, and so on, with a total of five presentations to be made in each branch. Meanwhile in September 1970, and in February 1971, the first presentation will be given to the remaining branches. The series will last two years in each branch. Depending on the acceptance of the program and the wish of Society members, it may be repeated, thus allowing new members to benefit from the scheme; this would also ensure that new and changing information is brought to the attention of the members.

The guest speaker for the first panel presentation was a representative of the Trust Companies Association of Nova Scotia, and this will be the case in all the initial presentations. The following are brief descriptions of the five presentations.

1. Introduction to Money Management and Estate Planning

Objective—To acquaint members with the principles involved in overall Money Management and describe the complex inter-relationship and interdependency of the various fields; to provide a brief introduction to estate planning, including requirements for legal services, tax accounting and insurance services; to provide members with list of trust company association membership firms, and names of branch managers. Speaker: Trust Company Association representative.

2. Investing

Objective—To outline aims of Investment Dealers Association; approaching the broker; investment objectives; methods of investment; hazards of investing; requirements for estate planning and tax accountant services. Speaker: Investment Dealers Association representative.

3. Family Protection

Objective—To acquaint members with all forms of insurance; develop knowledge of relationship with estate planning, investment, pensions, etc.; requirements for estate planning, tax accounting, and legal services. Speaker: Canadian Life Underwriters Association of Nova Scotia representative.

4. Property Management

Objective—To provide information on how to evaluate opportunities for investment in real estate and business; describe analysis techniques, and choice of advisory services; list need for legal and accounting services. Speaker: Nova Scotia Realtors Association representative.

5. Taxation Accounting

Objective—Throughout the Series repeated reference to Taxation Accounting has been made. This panel describes the role of this expert in providing support services, guidance in choosing alternatives, and provision of business management services. Speaker: Chartered Accountants Association representative. □

D.D.P.

SOCIETY DUES

Late payment of dues continues to be an unnecessary expense to the entire membership as well as a loss of revenue to the Society. Not only do 400 reminder notices cost something like $300.00 but the loss of revenue through short term investments is in the order of $2,500.00.

Please give this matter a moment out of your busy day. Thank you.

D.D.P.

Book Review

British Medical Bulletin, Volume 22 No. 1 January 1970: "The Control of Human Fertility". Ed. G. I. M. Swyer, $6.50.

The editors of the *British Medical Bulletin* appear to have a unique ability to select a very pertinent topic for publication. This issue entitled "The control of human fertility" is a most important and urgent bio-social and medical problem confronting us today. Great strides have been made in the last decade, both in the control of fertility and advances and research to aid those with the problem of infertility.

In the present issue 19 investigators have contributed 15 reviews to make the publication a landmark in the literature of fertility control. Because of its multi-disciplinary approach this symposium should have a wide appeal to many interested in fertility, as well as endocrinologists and gynecologists. The first papers deal primarily with the more recent advances in the hypothalamic control of ovulation and demonstrate how sensitive and specific assays for blood hormones have recently led to increased information in the field of the feed-back mechanism. This is followed by a superb review of induction of ovulation with both human gonadotrophins and the non-steroidal fertility pill clomiphene citrate. Following this is a superb review of the effectiveness and risks of birth control methods and the evaluation of the adverse effects of systemic contraceptives which is a topic of great concern at the present time. Included in this part of the symposium is a chapter dealing with recent developments in steroidal hormonal contraception and a concluding survey of the effectivness of mechanical and surgical methods of fertility control.

My conclusion is that rarely before have I encountered such a vast amount of knowledge and such an excellent survey on the control of human fertility as is contained in the volume under review. □

S.C.M.

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Doctor G. J. Lebrun
Doctor M. F. Fitzgerald

The Canadian Red Cross sends medical, technical and material assistance valued in excess of $800,000 to about 50 countries each year.

Operation: Nutrition Canada

The National Nutritional Survey 1970-72

The Ministry of National Health and Welfare on April 22 announced that a national nutritional survey would commence in Ontario in June and continue until September, 1972. It will examine about 20,000 normal individuals, as planned by the Bureau of Statistics. The purpose is to provide information on the nutriture of Canadians with special reference to age, sex, type of family, income and location. Canada will be divided into five regions—B.C., Prairie provinces, Ont., Que. and Atlantic provinces. A team of twenty professional and technical personnel will move from district to district and the results will be processed in Ottawa. Two of the team will be medically qualified and it is hoped that one of these will come from the district under survey. About three weeks will be spent in each Atlantic province. The survey will be financed nationally but through the provincial departments of health.

Dr. E. Gordon Young of the National Research Council in Halifax is director for the Atlantic area. He would be pleased to hear immediately from anyone interested and medically qualified to undertake the physical examinations involved. The survey will run from December 1970, to March 1971, and again from June to September, 1972. The period of service could be the Province only or the whole Atlantic area. □

Almost 400,000 patients in Canadian hospitals will receive transfusions of whole blood and blood products this year through the Canadian Red Cross Blood Transfusion Service.

More than one million units of blood are needed every year to meet the requirements of Canadian hospitals. This means that nearly two units a minute must be collected every day of the year.

ADVERTISERS' INDEX

PRODUCTS FOR RESEARCH PURPOSES

In the course of research activities and the development of new preparations in the Connaught Medical Research Laboratories, it sometimes happens that materials of scientific interest for research purposes become available. Some materials at present available, in some instances in only very small amounts, are the following:

Normal Serum Albumin—Human (Dry powder or solution)

Immune Serum Globulin—Human (Gamma globulin)

Fibrinogen—Human

Caeruloplasmin—Human

Antihaemophilic Globulin—Human

Fractions of Plasma—Human (Various fractions produced by Cohn cold ethanol process)

Insulin—Human (Carefully standardised ampoules containing 0.69 int. units)

Insulin—of Monkey or Horse origin

Tubercle Bacillus—Killed (For the preparation of complete Freund's adjuvant)

Complete Freund Adjuvant

Incomplete Freund Adjuvant

None of the above preparations is suitable for human use. The Laboratories would welcome inquiries from qualified research personnel or laboratories and will be glad to supply prices for specified items on request.

CONNAUGHT MEDICAL RESEARCH LABORATORIES
UNIVERSITY OF TORONTO

1755 Steeles Avenue West, Willowdale, Ontario

Established in 1914 *for Public Service through Medical Research and the development of Products for Prevention or Treatment of Disease.*

A booklet entitled "Products in the Service of Medicine" (1968 ed.) is available on request from Connaught Laboratories.