10

The Evolution of Health Insurance in Canada

BEGINNINGS

Prepayment of, or insurance against, the costs of medical services has a long history among Canadians. It may come as some surprise that the first known contract for medical insurance in North America was introduced almost 300 years ago. On March 3, 1665, in what is now the City of Montreal, a contract was signed between a master surgeon of Ville-Marie and 17 men and their families. The contract was apparently attractive for one month later six other family heads appeared before the notary and were blanketed into the contract. Several years later, there appeared the first "in-hospital" medical services contract. The parties to this contract were the Mother Superior of the Dames Religieuses Hospitalières and Jean Martinet de Fontblanche and Antoine Forestier, master surgeons, the latter promising and obliging themselves to "well and truly serve the hospital of Ville-Marie, to treat, dress and physic all the sick persons who may be there, and this for periods of three months each in turn and to visit such sick persons assiduously at about seven o'clock each morning and at such other hours as may be necessary, . . .".[1]

Making allowances for the difference in knowledge and technology between then and now, it will be noted that the main essentials of typically good modern agreements appear in both contracts.

One of the earliest examples of an individual hospital making use of prepayment arrangements was St. Joseph's Hospital in Victoria, British Columbia. In 1878 the hospital announced benefits of "gratuitous admission, . . . visits of the doctor at reduced rates, and medicines free of charge," for a monthly subscription of one dollar.

For the modern period, the development began both east and west, and so far as the records indicate, almost simultaneously. As early as 1883 the minutes of meetings of the Nova Scotia Provincial Workers' Association in the Glace Bay colliery district reveal that employers made certain deduc-

[1] *Bulletin of the History of Medicine,* Vol. XXVIII, No. 6, Nov.-Dec., 1954.

tions from the wages of their employees, in the form of subscriptions for the services of doctors and for hospital care, even though it was not until 1903 that the practice of deducting from wages at source was legally sanctioned by the Nova Scotia legislature. The wage deductions were compulsory for all employees of the mining company, and were paid to the hospital of choice (there being two hospitals) and to the doctor of choice, on a capitation basis. This was apparently the earliest "check-off system" for medical services in Canada. In other mining and lumbering centres across Canada similar arrangements were adopted. Some of the more important have been the Hollinger Consolidated Gold Mines plan in Timmins, Ontario, the Consolidated Mining and Smelting Company contracts in Trail, B.C., and the plans for mining employees in Nanaimo, Chemainus, and Port Alberni, British Columbia. Typically, these arrangements were for employees and their dependents only.

On the Prairies, well before the turn of the century, the device of prepayment on a voluntary basis had come into use. The first publicly supported general hospital to be built in the Northwest Territories was the Medicine Hat General Hospital, established in 1889. Built through business contributions, voluntary fund-raising activities, and grants from the territorial government, the hospital developed as one of its sources of operating revenue a system of hospital insurance tickets under which the Board of Directors agreed to "lodge, board and give nurse and medical attendance" for a year, to anyone who purchased a "Five Dollar Ticket", for an annual period. Several hundred people took advantage of the scheme during the first year.

The idea of prepayment through the sale of hospital insurance "tickets" by the hospital itself was also being accepted in the East. One such enterprising hospital was the Hôtel Dieu in Chatham, New Brunswick. A copy of a letter from the Sister Superior, dated October 5, 1907, to the manager of a lumber camp indicates that because of the number of men treated in the hospital who "had either been injured in the woods or there contracted some malady" the Sisters had decided "this year to issue 'admission tickets' for our hospital". The tickets were put up in books of twenty and the price per ticket was $3.00. The efforts of men in charge of camps and other business activities were solicited in the distribution and sale of these books. This, too, was a comprehensive coverage and included, "medicine, medical attendance, and board" at the Hôtel Dieu Hospital, "at any time during six months after date of this ticket".

Voluntary Health Insurance

These scattered examples, developed around the turn of the century, were clearly the forerunners of our present prepayment system. By 1934, a

survey by the Committee on Group Hospitalization of the Canadian Medical Association, revealed twenty-seven hospital-sponsored prepayment plans operating in six provinces. Two of these, Edmonton and Kingston, are of special interest. The Edmonton plan was known as "Edmonton Group Hospitalization" and all four Edmonton general hospitals participated. Coverage was limited to persons in groups at a premium rate of sixty cents per adult member per month. Benefits included standard ward care and special services at half-price. The programme continued until after World War II when it became the nucleus of the Alberta Blue Cross Plan.

The Kingston programme was initiated in 1933 and provided services in both the Kingston General Hospital, and the Hôtel Dieu. It operated on a different principle from that of the Edmonton plan, partial reimbursement of the patient's expenditures, the patient being entitled to a maximum of ten days in the semi-private ward or fifteen days in a public ward with a maximum for a family of fifteen days (or twenty days in a public ward). At the end of the year, all remaining funds in the plan were distributed to patients, each patient receiving the proportion of his expenditures that the balance in the fund represented to total patients' receipts. The total payments from the fund represented 60 per cent of the total of hospital charges billed to patients.

A programme following more closely the Edmonton plan had been launched by the St. Michael's General Hospital in Lethbridge, with the name "Voluntary and Provident Hospitalization Plan". Like the municipal plans in Alberta, it was based on a "dollar-a-day" payment by the patient and provided a fairly broad range of benefits for a premium of $6.00 per year.

These represented the second stage of development of prepaid health services in Canada and from these experimental plans the Blue Cross movement was to flower. In the meantime, in various parts of Canada many other developments had taken place in the governmental sphere, revealing a growing interest in medical as well as hospital care.

Public Health Insurance[1]

It is in the western provinces that we find first examples of people turning to the agency of government to solve their medical and hospital financing problems. And this should occasion no surprise, for in comparison with the East, the West suffered two disadvantages: the absence of large fortunes ruled out philanthropy as an adequate means of obtaining needed facilities or for meeting hospital deficits and sparse settlement made government the most efficacious machinery for solving such problems.

[1] For a description of the development of the direct provision of government medical and hospital services, as well as programmes for the indigent, see Chapter 8.

In all Canadian provinces, true to the Elizabethan Poor Law tradition, the burden of providing for the "sick poor" rested upon the municipalities. With this as a government responsibility, it was a natural development that wherever a church-related organization had not provided a hospital, government would find it necessary to undertake this responsibility as well.

In both Alberta and Saskatchewan, legislative provision was made for the combining of towns, villages and rural municipalities into hospital districts to establish a special local authority for the purpose of erecting and maintaining hospitals. In Saskatchewan the Union Hospital Act was passed in 1916 and over the years the Union Hospital system has steadily expanded. By 1920, there were ten Union Hospital districts: by 1930, there were twenty. Only three were established in the nineteen thirties. There are now 111 such districts in the province, covering more than half the population.[1]

As a result, the Union Hospital is the predominant type of hospital within the province and the system has enabled rural areas that could have supported hospitals in no other way to erect and maintain the hospital facilities they required.

In 1917, the Union Hospital Act was broadened to enable the hospital board to arrange with any municipality for annual contributions for the hospital, be it by a fixed *per diem* rate for the patients in the hospital or by a fixed amount *in lieu of* or *in addition to,* such rate. From this responsibility to make payments to hospitals in behalf of indigent patients, it was a logical step for municipalities to pay the hospital bills for all their residents and collect the necessary revenue through the general land tax. No legislative authority for such municipal expenditures existed, but it appears that at least ten municipalities were providing prepaid hospital care to their residents in this manner before 1919. The first legislative authority for municipal hospital care insurance programmes was a special act, passed in cooperation with the Alberta Legislative Assembly, to enable the town of Lloydminster, which straddles the Alberta-Saskatchewan boundary, to provide money for "the maintenance and extension of the Lloydminster Union Hospital" and "for the payment of the expenses of their respective rate payers and residents when patients in the said hospital". By 1942, eighty-eight rural municipalities or parts of municipalities were operating municipal care plans.

Much more widely publicized than either the Union Hospital District system or the Municipal Hospital Care system, has been the Saskatchewan Municipal Doctor system. Ever since 1931, when the United States Com-

[1] Data obtained from the Department of National Health and Welfare.

mittee on the Costs of Medical Care published the monograph by Dr. Rufus Rorem on the Municipal Doctor system, the plan has elicited the attention of persons interested in medical economics. Dr. Rorem wrote when the system had been in operation for sixteen years, by which time fifty-two municipalities had contracts for the services of municipal doctors. In 1948, at the peak of its development, 107 municipalities, 59 villages, and 14 towns had contracts for either full- or part-time services with 180 doctors.

The Municipal Doctor system had its origin half a century ago in Saskatchewan. In 1914, the Rural Municipality of Sarnia was about to lose its physician, and, as an inducement for the doctor to stay, the Rural Municipal Council, without legislative authority, offered the doctor an annual retainer fee of $1,500. In 1916, the Rural Municipality Act was amended by the provincial legislature to grant authority to rural municipal councils to levy taxes for this purpose. Following the war, rural areas continued to find it difficult to attract doctors, and in 1919, the Act was further revised to allow a municipality to pay a doctor a maximum salary of $5,000 in return for which he was to provide a general practitioner's service. From 1919 to 1925, further amendments were made, extending such authority to villages and towns to enter into similar arrangements and to enable parts of municipalities or two or more municipalities to co-operate in engaging the services of a physician.

The terms of the contracts varied, but the majority required the provision of a general medical service including minor surgery, maternity care, and public health work including the inspection and immunization of school children. In certain instances, if the physician was qualified, major surgery was also provided at an additional cost. In 1939, a major change was introduced by the passage of the Municipal and Medical Hospital Services Act, permitting a municipality or a group of municipalities to provide medical or hospital services by levying either a land tax or a personal tax or a combination of the two, with the proviso that such annual tax was not to exceed $50 per family. Municipal councils were thus enabled to obtain some contribution from non-property owners toward the cost of medical services which they received. As attested to by its consistent expansion in the number of persons in municipalities and doctors involved, it seems reasonable to state that within certain inherent limitations, and the special conditions of the rural west, the municipal doctor system was successful in meeting basic needs. Its chief advantage was that it provided a substantial inducement to a doctor to settle in a rural area in which, under the normal conditions of private practice, it would have been impossible for him to obtain an adequate income. Moreover, it provided for a new medical graduate a fairly sure means of rapidly establishing a practice and obtaining a definite income. None the less, the system had many shortcomings and,

in comparison with prepaid medical care obtainable in urban areas, left much to be desired. On the one hand, patients objected to the lack of free choice of doctor and to the restriction of benefits, in most cases, to the services of the general practitioner only. Doctors objected to the lack of right to select their patients, and to the fact that their tenure was, in some measure or at least in some instances, at the discretion of a municipal council. There have been certain objections to the amount of the salary paid and to the fact that many doctors felt a greater obligation always to be on call than they would under conditions of private practice.

In recent years the Municipal Doctor Plan began to be superseded in many municipalities by the "Community Contract" of the doctor-sponsored, Medical Services Incorporated plan, and was ultimately replaced by the Saskatchewan Medical Care Programme in July 1962.

The Municipal Doctor system has also been used in Manitoba and Alberta although not on the scale of Saskatchewan. The Health Survey Reports of those provinces indicated that, in 1950, there were eighteen municipal doctors in Manitoba and four in Alberta.

VOLUNTARY HEALTH INSURANCE IN CANADA

Reference having already been made to the beginnings, this section examines the four main categories into which voluntary insurance arrangements may be classified. There is, of course, some overlapping as we elaborate later on.

Voluntary Hospital Insurance (The Blue Cross Movement)

As indicated above, by 1934 there were in Canada 27 hospital-based prepayment plans operating in six provinces. There were also fraternal societies, lodges and mutual benefit societies that provided reimbursement of some part of the hospital bills of their members. It was in Winnipeg that the interest of the hospitals was combined with the interests of the community to develop the first approved "Blue Cross" plan in Canada. In 1937, under the sponsorship of the Central Council of Social Agencies, studies were commenced which ended with the passage of a special Act by the Manitoba Legislature in 1938. Enrolment began on January 1, 1939 and by 1941, 15,000 participants were insured. By the end of 1957, Manitoba Blue Cross had enrolled 403,000 participants, which was the highest proportion (46 per cent) of the available population of any Blue Cross plan in Canada.

With the initial success of the Manitoba plan, the Blue Cross movement in Canada gained momentum, with Ontario starting in 1941, Quebec in 1942, and the Maritimes and British Columbia plans in 1943. Alberta's pioneering "Edmonton Plan" was expanded into a Blue Cross Plan in 1948, and by 1958, Alberta Blue Cross had reached a total of 185,000 participants.

Some differences in the pattern of ownership and organization may be noted. The Manitoba plan was, as indicated, the creature of the Council of Social Agencies. Its Board membership of 21 indicated its broad community base, since seven represented the hospitals and the medical profession, and fourteen represented labour, business, rural municipalities, farmers and the public generally.

In Ontario the Blue Cross plan was the wholly-owned subsidiary of the Ontario Hospital Association. Unlike Manitoba Blue Cross however, which made herculean efforts to enrol rural subscribers, Ontario Blue Cross concentrated on commercial and industrial groups, leaving the rural population to the co-operatives. By December 1958, Blue Cross had enrolled 2,318,018 in its hospital care contract, which represented 39 per cent of the population of Ontario. Ontario Blue Cross was thus the sixth largest Blue Cross plan in North America.

The Quebec Blue Cross plan concentrated on urban enrolment in employee groups but resembled the Manitoba plan in its broad community backing. The British Columbia Blue Cross plan achieved an enrolment of 110,000 by the end of 1948, or about 15 per cent of the population. It is probable that its failure to achieve an enrolment proportionate to that of Manitoba and Ontario accounted, in part, for the introduction of the government-sponsored British Columbia Hospital Insurance Service on January 1, 1949, at which time the British Columbia Blue Cross plan ceased operations.

The Maritime Blue Cross plan emerged from the pioneering work of the previously mentioned Moncton plan, under the sponsorship of the Maritime Hospital Association. It operated under enabling legislation passed in Nova Scotia in 1943, in New Brunswick and Prince Edward Island in 1944, and under Newfoundland legislation passed in 1949. By the end of 1958, Maritime Blue Cross had achieved an enrolment of 332,000 participants.

Considering the modest beginnings of voluntary hospital insurance in Canada, and the limitations inherent in the voluntary approach,[1] the Blue Cross movement in Canada was extraordinarily successful. And there can

[1] See Chapter 18.

be no doubt of its contribution to the development of governmental policies respecting national hospital insurance in 1956 and 1957.

Voluntary Medical Care Insurance

Under this category, the profession-sponsored medical care plans operating in Canada are examined.

The first medical care plan introduced in Canada with Medical Association endorsement was the Toronto plan, Associated Medical Services, pioneered by Dr. J. A. Hannah, who received a grant of $5,000 from the Ontario Medical Association and a similar grant from the Ontario Civil Service Association, which enabled him to begin enrolment of the first subscribers under a non-profit charter of the Companies Act of Ontario, April 1937.[1]

More closely approaching the future pattern, however, was the plan launched on January 1, 1939, in Windsor, and sponsored by the Windsor Medical Society. The next such plan to be organized was Regina Medical Services, sponsored by the physicians in Regina in 1939.

In 1940, Medical Services Associated (British Columbia) became the first plan to serve as a province-wide model for the medical profession.

The other profession-sponsored plans in Canada were developed as follows:

Manitoba Medical Services, 1942
Medical Services Incorporated, Saskatoon, 1946
Physicians Services Incorporated, Ontario, 1947
Medical Services (Alberta) Incorporated, 1948
Maritime Medical Care Incorporated, Nova Scotia, 1948.

The chief characteristics of these plans are as follows:

(1) They are sponsored by the medical profession and, with the single exception of the British Columbia plan, are controlled by the profession through majority representation in the boards of directors.

(2) They provide *service* benefits, i.e., the patient receives the services and the doctor submits his bill directly to the plan. With certain exceptions, the patient is usually not involved in the payment of a fee.

(3) In a sense, the members of the profession become "underwriters" since it has sometimes been necessary to "pro-rate" their fees whenever revenue was insufficient to meet the total of accounts received.

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[1] Taylor, Malcolm G., *The Administration of Health Insurance in Canada,* Toronto: Oxford University Press, 1956, p. 43.

In addition to these programmes sponsored by the profession, three of the Blue Cross plans have provided medical benefits, and the first two mentioned continue to do so:

(a) Quebec Blue Cross Plan
(b) Maritime Blue Cross Plan
(c) Ontario Blue Cross Plan

The provision of medical benefits by the Quebec and Maritime Blue Cross plans was approved by the respective provincial medical association but was opposed in Ontario. On January 1, 1959, Ontario Blue Cross gave its medical plan subscribers the option of transferring to Physicians' Services Incorporated.

The growth of the profession-sponsored plans is shown by these data for five-year intervals, covering both group and individual contracts for both comprehensive and limited contracts:[1]

Year	Enrolment (000's)
1950	1,222
1955	2,890
1960	4,140
1961	4,848

Co-operative Plans

The distinction between the medical and hospital "co-ops" and the profession-sponsored plans is that under the co-ops, it is the consumers rather than the providers of service who control the organization. Reference has been made to some of the co-operatives in earlier sections. The history of the co-operatives has been one of great variety. Sometimes they have been sponsored by co-operatives formed for other purposes such as those under the Credit Union Medical Benefit Association in Ontario. In some cases, as in Regina, the co-operative plan and the profession-sponsored plan were combined to form one new plan. In Ontario the medical co-operatives are used as "collectors" for the Ontario Hospital Services Plan in the rural areas and the subscribers pay both premiums to the medical co-op.

At one time, Saskatchewan had a large number of medical co-operatives but these ran into serious financial difficulties and only one now remains. One co-operative medical plan is active in Quebec, the Service de Santé de

[1] Berry, C. H., *Voluntary Medical Insurance and Prepayment*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964, Chapter 2. (Excludes duplication of major medical supplementary category.)

Based on Health Insurance Association, *Survey of Voluntary Health Insurance in Canada, 1950-1960.*

Québec. At the end of 1961, 138,370 people in Canada were insured through co-operatives for medical, and hospital benefits; 55,563 having group and 82,807 having individual contracts, representing a marked decline in this type of insurance.[1]

Commercial Insurance

Commercial insurance providing protection against medical and hospital costs is provided through two types of companies: (i) the life insurance companies and (ii) the casualty insurance companies offering sickness and accident insurance including hospital, medical and surgical expense benefits and, in certain companies, cash benefits for time lost due to sickness. In the main, the life insurance companies restrict their sales to groups of subscribers, whereas the casualty companies also have extensive coverage of individuals. The number of persons insured through commercial insurance has increased steadily over the years and by 1961, reached a total of 4,635,000 Canadians, with 4,130,000 covered under group policies and 505,000 covered by individual policies.

The first distinction between the nature of the insurance protection provided by commercial companies and the profession-sponsored plans is in the form of the benefits. The commercial companies provide an *indemnity* benefit rather than a service benefit, i.e., they undertake to pay the beneficiary a stipulated amount on the occurrence of a specified contingency such as a surgical operation, hospitalization, or attendance by a physician.

The second distinction is that carriers regard the function of medical insurance to be protection against expense which the insured would find difficult or impossible to meet himself. Accordingly, they have distinguished among medical and surgical care and in-hospital and out-of-hospital services, and offer a variety of plans which include only those services against which the insured wishes to be protected rather than offering primarily a standard, comprehensive policy, as the prepayment plans have tried to do. The insured has wide choice as to the degree of protection he may purchase for each type of contingency. The range of choice is much wider, of course, in the purchase of non-group than in group contracts, but even in group contracts the range of value of benefits available for selected standard procedures, from the highest benefit to the lowest, is between three and four hundred per cent.[2]

Although in the negotiation of group contracts, expert advice is likely to be available, the individual buyer must be regarded as not sufficiently knowledgeable in this area to make a wise selection among the many alternative "packages" offered him.

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[1] *Ibid.*, Chapter 2, Table 2-1, and comments thereto.
[2] *Ibid.*, Chapter 3, Table 3-10.

The third difference is a philosophical one, although there are exceptions in practice. Generally speaking, the prepayment plans prefer to establish one premium schedule for all groups, regardless of their age or sex composition or their morbidity experience. The insurance industry, typically adopts the principle that an individual ought not to carry risks that are not his own and, in practice, rates the actual claims experience of each group, lowering the premiums for those with a low claims rate, and raising to adequate levels the premiums of those groups with high claims rates.

Since the prepayment plans are in competition with the insurance industry, in many cases they have lost large groups with low risk experience because of their adherence to a standard premium. Other prepayment plans have adopted the experience-rating device in order to meet this competition, although five of eleven plans report that they do not "experience rate" any group.[1] Their argument is that with experience-rating, individuals with unfavourable experience may be "unfairly" excluded or high cost groups "penalized". In short, the prepayment plans tend to follow the principles of social insurance rather than of commercial insurance.

The sale of insurance to individuals, with the possibility of an adverse selection of risks, has led, understandably, to underwriting techniques to protect the company against the hazards of such self-selection. The various techniques, which in the past two years appear to be more leniently applied, include health statements, medical examinations, waiting periods, exclusions, age limits, waivers, and carrier cancellation privileges.[2]

The only assurance that an individual has that his coverage will not be cancelled or specially rated, or that waivers of some benefit will not be required, is the non-cancellable guaranteed renewable contract. Of 58 non-group carriers reporting, 14 had such coverage available in 1961.[3]

A recent addition to the insurance protection offered by a number of insurance companies is the so-called "major medical expense" contract. These are of two kinds: (a) the "comprehensive" which is designed to provide full coverage for a complete range of health services, with a maximum, usually of $5,000, for any one episode, and other financial limitations, and (b) the "supplementary", which usually has the same maximum, but is designed to supplement an existing standard medical and surgical expense contract.

In 1961, 6.6 million persons were reported having either comprehensive major medical expense contracts or having contracts providing surgical and medical coverage extending beyond simply in-hospital care.[4]

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[1] *Ibid.*, Chapter 3.
[2] *Ibid.*, Chapter 3, Tables 3-13 to 3-18.
[3] *Ibid.*, Chapter 3.
[4] Excludes major medical supplementary.

The Commission's extensive survey of coverage at the end of 1961 (the latest year for which complete returns were available) indicates the numbers insured through commercial insurance companies, by type of coverage as shown in the following Table 10-1:

TABLE 10-1 NUMBER OF PERSONS INSURED BY COMMERCIAL INSURANCE, BY TYPE OF COVERAGE AND METHOD OF ENROLMENT, CANADA, 1961

Enrolment	Type of Coverage				
	Limited*	Comprehensive**	Major Medical Comprehensive	Major Medical Supplementary	Total†
	'000	'000	'000	'000	'000
Group Enrolment.....	1,292.3	1,059.8	1,778.5	963.7	4,130.6
Individual Enrolment....	235.9	209.9	60.1	1.6	505.9

*Limited includes surgical only, medical only, and surgical and medical in-hospital only.
**Comprehensive includes medical and surgical services in office, hospital or home.
†Excludes Major Medical supplementary.

SOURCE: Berry, C. H., *Voluntary Medical Insurance and Prepayment*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964, Chapter 2, Table 2-1.

Parallel to the development of voluntary plans and experiments, sometimes preceding and sometimes following, were various provincial experiments in the provision of health insurance, included both hospital and medical care insurance as well as prescription drugs. These experiments culminated in the development of public hospital insurance first in Saskatchewan and then in British Columbia. In Saskatchewan, a province in which no Blue Cross Plan had been organized, a Hospital Service Plan was introduced in 1947. In 1949, this was followed by the Hospital Insurance Service of British Columbia where Blue Cross had succeeded in enrolling only about 15 per cent of the population. Ultimately these developments led to the passage of the Hospital Insurance and Diagnostic Services Act in 1957 whereby both the federal and provincial governments participated in the provision of public hospital insurance. In the field of medical care insurance, Saskatchewan introduced a "medicare" programme in 1962 and this was followed by the Alberta Medical Plan in 1963. We now turn to a review of government activities in the health insurance field.

PUBLIC HEALTH INSURANCE IN CANADA

Although all provincial governments historically have become concerned with the economic problem of providing health care, particularly to people in need, it was in the western provinces that the health insurance issue became of major importance.

Health Insurance in British Columbia

No other legislative body in Canada has had the issue of health insurance before it so frequently and consistently over such a long period of time as has the Legislature of British Columbia. It is almost forty-five years since the first Royal Commission to investigate health insurance was appointed, a second commission was appointed thirty-five years ago, for the last twenty-five years there has been an inoperative health insurance law on the statutes, and 15 years ago British Columbia became the second province of Canada to launch a province-wide hospital services plan.

The first Commission was appointed on November 19, 1919 but no action was taken on its Report. In 1922 a member of the opposition proposed that a committee be appointed to bring in a Health Insurance Bill before the close of the session. Interestingly, Premier Oliver opposed this motion, pointing out that there was still a good deal of confusion as to whether the Dominion or the Provincial government was responsible for health insurance. Accordingly, the legislature passed a resolution that "this house urge upon the Government of Canada to give early consideration to legislation providing for an adequate system of insurance against sickness".

This resolution effectively limited the discussion of health insurance in the legislature until 1927. In that year, however, a new campaign began which was not to reach its climax until ten years later. Efforts in that session, in the 1928 session, and repeated in the 1929 session finally brought about the appointment in March 1929, of a British Columbia Royal Commission to report on the matter of health insurance. The Commission's Report was submitted in 1932. Its chief recommendation was compulsory health insurance for all employed persons in receipt of an annual income up to $2,400 and voluntary admission to the scheme of other persons who wished to enter, with the system financed either wholly by contributions from employees or on a state-employer-aid basis. Benefits were to include medical services, drugs and appliances, hospitalization and at an early date, a dental benefit.

After lengthy discussions, a Health Insurance Commission was appointed and negotiations with the medical association begun. A draft

bill was finally completed and passed. Although the proposal was approved both in an election and in a special plebiscite, the issue proved to be more highly controversial than expected.

Because of strong opposition, it was stopped 9 days before it was to go into effect (February 9, 1937).

The next developments in medical care insurance in British Columbia were the introduction of the doctor-sponsored "M.S.A." in 1938, and the introduction of the provincial Hospital Insurance Programme in 1949, discussed below.

Health Insurance in Alberta

The first legislative inquiry in Alberta took place in 1928 with the report being submitted at the legislative session in 1929. While commending the municipal doctor system operating in some municipalities, the report felt that it would probably be better to improve public health services. The next move was a unanimous resolution of the legislature in 1932 calling for an investigation into state medicine. An interim report favourable to prepaid health insurance was submitted in 1932 and a final report in 1934. The 1934 report recommended the rapid expansion of public health services and grants to municipalities for municipal physicians as a first step and, as an ultimate step, the development of a province-wide health insurance plan to be administered on a decentralized basis using local health regions as the administrative units. Although the depressed economy obviously counselled slow development, the ultimate statement of the Commission was that "it is the opinion of your Commission that adequate medical services will never be available to all people of Alberta until income earners, through a system of compulsory contributions contribute a monthly sum sufficient to provide adequate medical services to all the people of the province". At the session of the legislature in the spring of 1935, a comprehensive health insurance bill was passed, but never promulgated. In 1944, Alberta introduced a programme of Maternity Hospital Care, financed wholly from provincial general revenues. In 1949, Alberta legislation provided for subsidy of municipal hospital care programmes.[1]

Alberta has had four medical care insurance acts placed upon its statutes. One of these was passed in 1935, but not proclaimed. The second was passed in 1942, and the third in 1946. The 1946 Act did not come into effect and the 1942 Act was repealed in 1953. The present Act was proclaimed in 1963.

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[1] See p. 409.

The present Alberta Medical Plan came into force in 1963 with an amendment to The Treatment Services Act which allowed the Minister of Health to:

> "... enter into agreements with Medical Services (Alberta) Incorporated or any insurance corporation whose basic program of prepaid medical services or medical services insurance has been approved by the Government and the College of Physicians and Surgeons of the Province of Alberta to make available prepaid medical services or medical services insurance with comprehensive benefits to those eligible residents who desire it and need assistance to purchase the contracts provided by that corporation and to provide a specified dollar subsidy in respect of those residents who need assistance on the condition that the cost of the prepayment premium or insurance to those residents is reduced by the amount of the subsidy, . . .".[1]

The Plan differs from all earlier proposals in that it is simply a system of government subsidy to those individuals who wish to be insured but whose incomes are determined to be so low as to make it difficult or impossible to pay the premium rates of the medical-sponsored prepayment plan or of commercial insurance companies.

Subsidies of two amounts have been established for two different income levels:

(1) of the premium for those whose taxable incomes are below the income tax exemption level, and

(2) of the premium for those whose incomes are so low that they have taxable income of less than $500.

The maximum annual premium for the standard contract has been set at $63.00 for individuals, $126.00 for families of two and $159.00 for families of three or more. This is the highest premium in Canada and compares with $51.00 for individuals and $138.00 for families for the most comprehensive plan in Canada, Manitoba Medical Services.[2] At the end of 1963, some 628,290 of Alberta's estimated population of 1,398,000 were insured.[3]

Health Insurance in Saskatchewan

Reference has been made to the development of the Union Hospital System and the Municipal Doctor System in Saskatchewan. Despite the rate of growth of these municipal plans, there was almost constant representation from the Saskatchewan Urban Municipalities Association and the

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[1] Alberta Medical Plan, Bill 31, Amendment to The Treatment Services Act, 5th Session, 14th Legislature, Alberta, 11 Elizabeth II, Edmonton, Queen's Printer, 1963.

[2] The Manitoba Medical Services premium is for non-group contracts. The group plan is experience-rated and the premium is lower.

[3] The Alberta plan became effective on October 1, 1963. On July 1, 609,000 persons registered for the plan. At the end of September 1963, M.S.A.I. was carrying 611,000 persons. Information obtained from Trans Canada Medical Plans.

Saskatchewan Association of Rural Municipalities to have the provincial government adopt a province-wide programme. These were especially strong during the 1930's when a substantial proportion of all physicians in Saskatchewan was in receipt of provincial government assistance. By 1942, the Saskatchewan Medical Association itself went on record as indicating that it was "in favour of state aided health insurance on a reasonable fee-for-service-rendered basis". Finally, in 1943, the provincial government established a Select Special Committee on Social Security and Health Services, which held public hearings. It indicated in its final report that representations before it had advocated two different methods of financing health services:

(1) "A system of state medicine financed from taxation and in which members of the medical profession would be civil servants with their salaries paid by the state;"

(2) "A system of health insurance financed by contributions, doctors being paid by fee-for-service, by capitation, or by salary."

The decision between these, said the Committee, would undoubtedly be made by the federal legislation then in the process of consideration by the House of Commons Select Committee. It advocated the establishment of a Commission whose duty it would be to introduce a health insurance programme as proposed by the federal government.

A bill was passed incorporating these recommendations and received Royal Assent on April 1, 1944, during the dying days of the last session of the Ninth Legislature.

This Act was not proclaimed but was replaced by a Health Services Act passed at the 1945 session, the major section of which provided for a comprehensive range of health services for recipients of public assistance. In 1946, the Hospitalization Act was passed, launching Canada's first provincially sponsored hospital insurance programme.[1]

A beginning was made in 1948, with a public medical care service in the Swift Current Health Region. This plan was financed by a combination of personal and property taxes, supported by provincial government grants. While it continued to function in the Swift Current Health Region, the plan failed to win acceptance in other Health Regions of the province until it was superseded by the province-wide programme in 1962.

In 1960, the Saskatchewan Government appointed the Planning Committee on Medical Care representing professions, public and government. Following submission of its interim report in September, 1961, the Saskatchewan Medical Care Insurance Act was passed November 17, 1961, and scheduled to go into force on July 1, 1962. Because of disagreement

[1] See Chapter 10.

between the Medical Care Commission and the College of Physicians and Surgeons, the programme did not become fully operative until after the Saskatoon Agreement was reached on July 23, 1962.

The "Medicare" programme, as it is called, provides for a full range of medical and surgical services, both in and out of hospital. General administration is directed by the Medical Care Insurance Commission. Payment of premiums is compulsory, but individuals and family heads may elect to enrol, at a higher premium, through either of the physician-sponsored prepayment plans or an agency sponsored by a number of insurance companies. These three agencies receive accounts from physicians on behalf of their subscribers, forward them to the Medical Care Insurance Commission, are paid by the Commission, and, in turn, pay the physician.

For all other insured persons, accounts are sent directly to the Commission either by the physician for payment or by a patient for reimbursement.

A physician may, if he wishes, practise outside the programme, and receive payment only from patients directly who are then reimbursed by the Commission.

At the end of the first year's operations, this Commission was fortunate to obtain statistics on utilization and costs of the Saskatchewan experience. These have been analysed in a study prepared for us.[1]

Health Insurance in Manitoba

Public debate over health insurance in Manitoba has never reached the proportions that it commanded in British Columbia, Alberta or Saskatchewan. As in other provinces, however, the problems faced by people in paying their hospital bills and by doctors in obtaining remuneration during the depression prompted establishment of a legislative committee in 1931 which presented its report to the session in 1932. It recommended simply that public health services should be extended, that assistance should be given to the municipal doctor plans and that a second commission should be appointed to investigate the feasibility of health insurance in the urban areas. The second commission was never appointed.

In 1945, as a result, in part no doubt, of the wide-spread publicity given to the House of Commons Hearings 1943 and 1944, the legislature passed the Health Services Act. It is interesting to note the priorities attached to the development of health services in that Act. The principles underlying the legislation were:

(1) the establishment of a province-wide preventive health service based on full-time local health units;

[1] Berry, C. H., *op. cit.*

(2) the establishment of diagnostic centres in hospitals both rural and urban and the provision of necessary diagnostic tests required by any patient free of charge;
(3) the provision of a general practitioner's service on a prepaid basis;
(4) the establishment of adequate hospital facilities and hospital insurance based on a province-wide system of hospital areas.

Beginning in 1946, Manitoba introduced free diagnostic out-patient services in a number of rural health units, but no other aspect of the programme was adopted until the national Hospital Insurance Programme in 1958, for which special legislation was passed.

Health Insurance in Ontario

In a survey of provincial government activity in the field of health insurance, one cannot help but note the existence of a geographic pattern of interest.

With but one exception, until as recently as 1955, action and, therefore, apparently, interest declined as one moved from the western provinces to eastward. Before 1955, the record of governmental interest in the provision of hospital and medical care insurance in Ontario is almost negligible. There had been no legislative committees, no royal commissions, and at no time was there any legislation on the statutes relating to health insurance for the general population.

However, in 1935, Ontario introduced a public medical care programme providing services of physicians in the home or in the office for recipients of public assistance and this, in fact, established a pattern which has been followed by the four western provinces and, in part, by Nova Scotia, in the provision of medical care for the indigent.

Ontario is more important for developments in the inter-war years in the field of voluntary medical and hospital care insurance, noted above. Currently however, there is a bill under consideration, respecting Medical Services Insurance, to make medical services insurance available to every resident and his dependents, without regard to age, physical or mental infirmity, financial means or occupation. Briefs are being presented to the Medical Services Insurance Enquiry.[1]

Health Insurance in Quebec

Until recently, there was also very little interest in health insurance in the legislature of Quebec. In 1942, a Commission was appointed to inquire

[1] Bill 163, 4th Session, 26th Legislature, Ontario, 11-12 Elizabeth II, 1962-63, *An Act respecting Medical Services Insurance*, Toronto: Queen's Printer.

into the hospitals of the province and in its report it recommended introduction of universal health insurance, to be financed by a threefold contribution by the government, the employer, and the insured. In 1943, an Act to constitute a Health Insurance Commission was passed and it submitted its first report in 1944 on the subject "The Question of Nurseries and Child Protection".

With a change of government in 1945, the Health Insurance Commission was abolished.

Health Insurance in the Maritime Provinces

The Maritime Provinces complete the earlier picture of declining interest in governmental action in health insurance as one moves from West to East. There were important developments in voluntary insurance, as outlined above, but government action was concentrated in vigorous public health programmes and hospital construction.

Health Insurance in Newfoundland

Long before Newfoundland joined in Confederation, the province had entered into arrangements for part-time services of medical practitioners in certain areas. The Cottage Hospital and Medical Care Plan extended these arrangements to cover in-patient and out-patient hospital and medical care as well as domiciliary services by the physician. This plan which originated in 1935, was modified by the introduction in 1958 of the Hospital Insurance and Diagnostic Services Act. The same applies to the hospital plan for children under 16 years of age which began in 1957, and in the following year was extended to cover medical care in hospital.

Health Insurance and the Federal Government

The interest of the Federal Government in the issue of health insurance is a comparatively recent one, no thorough attention having been given before the 1940's. The issue has come, of course, before the attention of the House of Commons on a number of occasions.

The first recorded official action was taken in 1928 when a motion was adopted that the Standing Committee on Industrial and International Relations be authorized to investigate a report on insurance against unemployment, sickness, and disability.

The following year, the Committee presented a report and recommended that the Department of Pensions and National Health be requested to initiate a comprehensive survey of the field of public health with special reference to a national health programme. No further action was taken until 1935, when The Employment and Social Insurance Act, passed on June 28,

authorized the Administrative Commission established by the Act to assemble information concerning any scheme on a collective or co-operative basis by means of insurance or otherwise, for

"(i) medical, dental and surgical care, including medicines, drugs, appliances, or hospitalization, or

"(ii) compensation for loss of earnings arising out of ill-health, accident or disease".

Under another section of the Act, the Commission was authorized "from time to time (to) submit to the Governor in Council proposals for co-operation by the Dominion in providing any of the benefits enumerated . . . for such action the Governor in Council is authorized to take, . . .".[1] This Act was declared unconstitutional by the Supreme Court and the Privy Council in 1937.

The next action by the Federal Government in the field was incorporated as part of the work of the Royal Commission on Dominion-Provincial Relations which presented its Report in 1939. On the issue of health insurance, there is some doubt as to the precise intent of the Commission. It recommended that the provinces should accept responsibility for public health "field" activities, the provision of institutional care, and policy as to the method (e.g., whether by health insurance or by state medicine and state hospitalization) of providing state medical services (including dental, nursing, and hospitalization) for indigent or low-income groups. It suggested, however, "that the Dominion might be in a better position to collect the fees for health insurance, especially if there should be a Dominion scheme of compulsory unemployment insurance or contributory old-age pensions".

Following this Report, the Minister of Pensions and National Health discussed the matter at the regular annual meeting of the Dominion Council of Health in 1941 and the "members expressed themselves as being sympathetic to the formulation of a plan of health insurance which would comprise preventive medicine and medical care". The next step was the appointment of advisory committees to assist the Director of Public Health Services in the Department of Pensions and National Health to discuss and develop proposals for health insurance to be submitted to the Cabinet. The Canadian Medical Association appointed a committee which was not only instrumental in advising the Department officials, but which also had an influence in the announcement by the Canadian Medical Association of its policy regarding health insurance on January 19, 1943:

(i) The Canadian Medical Association approves the adoption of the principle of health insurance;

[1] *Statutes of Canada*, 25-26 George V, Chapter 38, Part IV pp. 40 and 41, 1935.

(ii) the Canadian Medical Association favours a plan of health insurance which will procure the development and provision of the highest standards of health services, preventive and curative, if such a plan be fair to the insured and to all those rendering the services.

In order to deal with the vast amount of material coming from 14 different advisory committees, the Minister appointed the Advisory Committee on Health Insurance. It was instructed "to study all factual data relating to health insurance and report thereon to the Minister of Pensions and National Health".

When the House of Commons met on January 28, 1943, the Government announced the appointment of a Select Committee on Social Security and to it was transmitted the Report of the Advisory Committee on Health Insurance.

To resolve the constitutional issue of provincial responsibility for health, the National Health Insurance Programme recommended by the Committee was to be achieved by the enactment of a Dominion Statute which would provide grants-in-aid to provinces enacting health insurance measures along the lines suggested in a model provincial bill. In addition to the insurance programme, the province would be required to agree to undertake a general public health programme approved by the Dominion Government and toward which a further grant-in-aid would also be given.

The benefits were most comprehensive, comprising prevention of disease including medical and nursing services, hospitalization, pharmaceutical and limited dental care. There was no provision for cash benefits. The bill also provided for a complex method of determining tax liability and the collection of the tax.[1]

These proposals and the draft bills were then considered by the House of Commons Special Committee on Social Security. At no previous time in Canada's history had the question of health insurance elicited such response. A total of 117 witnesses representing 32 groups appeared before the Special Committee on Social Security and on July 23, 1943, following weeks of hearings, the Special Committee reported to the House of Commons that "the Committee approved the general principles of health insurance put forth in a health insurance bill respecting public health, health insurance, the prevention of disease and other matters related thereto".

Hearings were again held in 1944 and the draft bill was given additional scrutiny in the intervening period. As a result, a number of major changes were made in the proposal for the establishment of the health insurance fund.

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[1] *Health Insurance,* Report of the Advisory Committee on Health Insurance Appointed by Order in Council P.C. 836 dated February 5, 1942, Ottawa: King's Printer, 1943, p. 3.

In order to obtain the views of provincial representatives on the revised proposals, a Conference of Dominion and Provincial Ministers and Deputy Ministers of Health was held in Ottawa in May, 1944.

The House of Commons Select Committee gave the bill further consideration, and on July 28, 1944, presented its Third Report to the House of Commons. It recommended that the bill be referred to a Dominion-Provincial Conference.

With the approach of the end of the war, the attention of the Canadian Government was directed to far reaching measures, of which health insurance was but one. Accordingly, the Federal Government called in August 1945 a Dominion-Provincial Conference on Reconstruction and to it submitted a wide range of proposals whose objectives should be "high and stable employment and income, and a greater sense of public responsibility for individual and economic security and welfare". The health insurance proposals had been substantially altered, the chief difference being the removal of most of the provisions of the draft bill to be passed by the provinces and the removal of the specific proposals for financing. The result was a much more flexible proposal for provincial acceptance.

The Canadian Government made four specific proposals:

(1) A grant for planning and organization.

(2) Proposals for health insurance.

(a) The provinces were to adopt health insurance in two stages. The first stage was to include a general practitioner service, hospital care, and a visiting nurse service. The second and later stages included other medical services (consultant, specialist, and surgical), other nursing services, (including private duty), dental care, pharmaceutical services, and laboratory services.

Among the most interesting changes was the proposal for federal financial sharing.

(b) The Federal Government estimated that the total cost of all services would be $21.60 *per capita.* It proposed to contribute to the cost of each benefit under the Health Insurance Plan as it was brought into effect in each province (i) a basic grant of one-fifth of the *estimated* cost of each service and (ii) one-half additional actual cost incurred by each province in providing each benefit up to a stated maximum which would reach $12.96 per person when the complete programme was in operation. This meant, in effect, an offer of 60 per cent of the estimated cost of each service if the actual cost coincided with the estimate. If the actual cost exceeded the estimated cost which in

the post-war period of rising prices it was bound to do, then the federal contribution would have been less than 60 per cent.[1]

(3) Public health grants.
These were health grants for specified public health purposes.

(4) Financial assistance for hospital construction in the form of low-interest loans to the provinces.

Because of the importance for the Commission's considerations of Dominion-Provincial relations, it might be worth while to stress here the changes in these proposals from those which had been so laboriously prepared in the first instance. These were:

(1) Abandonment of the principle that the provinces could qualify for Federal assistance only by introduction of a comprehensive health insurance programme along the lines prescribed by the Federal Government, and acceptance instead of the principle that a province would qualify for federal assistance by introducing health insurance services by gradual stages.

(2) An abandonment of participation by the Federal Government in the procedure of collection of contributions.

(3) An abandonment by the Federal Government of its former prescription of details of administration as outlined in the suggested model bill. Provinces were to be completely free to decide the form of administration.

(4) By removing the stipulation that the public health grants were to be conditional upon the acceptance by the province of a programme of health insurance, the Federal Government recognized its responsibility for a financial contribution for improved health standards without reference to the issue of whether a province must introduce a health insurance programme.

(5) The proposal to make loans available for hospital construction was also an indication of recognition by the Federal Government of the inadequacy of the existing facilities to meet health needs once the economic barrier to effective demand for care should be removed.

These proposals were submitted to a Dominion-Provincial Conference which met in August 1945 and reconvened in April 1946. Unfortunately, the central theme of the Conference became not that of reconstruction so much

[1] For example, if the programme had gone into effect, say, in 1946, then Saskatchewan's Hospital Insurance Plan would have qualified in 1947. The Federal Government estimated cost of hospital care was $6 per capita. Saskatchewan's actual cost was approximately $9 per capita. The Federal Government contribution would have been 60 per cent of $6, or $3.60, and thus 40 per cent of the total.

as the financial arrangement concerning fields of taxation to be "rented" to the Federal Government in return for subventions to the provinces. Failure to arrive at agreement on these financial terms, therefore, precluded the adoption of any of the proposals of the Federal Government and, as an consequence, extensive action by the Federal Government in the field of health services was postponed until 1948 when the health grants programme was introduced.

NATIONAL HEALTH GRANTS PROGRAMME, 1948

Conditional grants-in-aid are a favoured device in federal systems. The philosophy underlying conditional grants-in-aid rests on two underpinnings:

(1) The allocation of revenues in a federal system decided upon at the Constitution-forming period may be inadequate to finance activities as they expand under changing conditions. It is apparent in the Canadian system that the expansion of services under provincial jurisdiction—education, health, welfare, and highways, particularly—have exceeded the capacity of the provinces to finance them from their constitutionally assigned revenue sources.

(2) Even if some provinces are able to undertake all of the services constitutionally assigned to them, there is a wide disparity among the respective abilities of the provinces to undertake all the services. The conditional grant-in-aid, therefore, is an attempt to overcome the inequities between provinces by enabling all of them to meet what is termed "a national minimum standard".

It is for this reason that some conditional grants programmes may contain formulas that compensate for these inequities. For example, 50 per cent of the tuberculosis control grant is apportioned among the provinces on a strict per capita basis and the other half is apportioned in accordance with the tuberculosis mortality rates. The grant for maternal and child health is also distributed one-half on the basis of population and the other half on the basis of maternal and infant mortality rates.

It will be recognized that these provisions in the formula take account of health needs, but not fiscal needs. In Canada, the conditional grants have traditionally not been concerned with the difference in fiscal needs. The equalizing function of federal assistance has been incorporated in the Tax Agreements.

In 1948 the Government decided that, notwithstanding the failure to obtain agreement on health insurance, it would be highly desirable to

introduce the health grants to provide firmer foundations on which the edifice of health insurance might later be erected. Accordingly, on May 14, 1948, the Government introduced the National Health Grants legislation.

There were some changes from the original proposals in 1945 and the following pattern emerged:

(1) A health survey grant for the purpose of "assisting the provinces in setting up the machinery which would be necessary to insure the most effective use of the other health grants and in planning the extension of hospital accommodation and the proper organization of hospital and medical care insurance".

(2) Grants-in-aid of existing programmes

(a) Public Health Grant	$8,097,000	
(b) Tuberculosis Control	4,678,000	
(c) Mental Health	7,405,000	
(d) Venereal Disease	523,000	(a matching grant)
(e) Crippled Children	520,000	
(f) Cancer	3,606,000	(a matching grant)
(g) Laboratory and Radiological Services	6,546,000	(a matching grant if used for services, but a non-matching grant for equipment and personnel)
(h) Medical Rehabilitation	999,000	
(i) Child and Maternal Health.	1,916,000	

(3) A grant-in-aid of professional training 623,000

(4) A grant-in-aid of hospital construction ..... 17,918,000 (also a matching grant)

PUBLIC HOSPITAL INSURANCE

Maternity Hospital Care in Alberta, 1944

The first government-sponsored hospital care programme in Canada was the programme introduced by the Alberta government in 1944 offering "free" hospital care benefits up to a maximum of 12 days, for all expectant mothers and their new-born babies in Alberta, provided the mother

was a bona fide resident of the Province and had actually resided in the Province in twelve consecutive, of the preceding 24 months.[1] Benefits included all the services of the hospital at the standard ward level necessary for a maternity patient and the new-born infant for a maximum period of twelve days. Services could be received in approved hospitals and nursing homes or a cash grant could be paid to the mother whose baby was born at home. In the year following the programme, 96 per cent of all babies born in Alberta were delivered in hospitals. In 1958, the programme was integrated into the general hospital care programme.

Social Assistance Hospital Care in Saskatchewan, 1945

The second partial step to provide hospital services by a provincial government was the introduction in 1945 of a comprehensive programme of health services, including hospital, dental, medical, and pharmaceutical benefits for all persons in receipt of old age pensions, mothers allowances, and general relief. Approximately 30,000 citizens were thus entitled to free hospital care on presentation of their "insurance" card. The importance of this programme is indicated by the fact that in 1961, although those entitled to services represented only 4.5 per cent of the population, they received 13.4 per cent of all days of hospital care.

Saskatchewan Hospital Services Plan

It will be recalled that public interest in health insurance in Saskatchewan had resulted in 1943 in the establishment of the Select Committee of the Legislature under the Liberal Administration and that this interest had continued unabated.

A second Royal Commission was appointed in 1944. It recommended, among other things, the development of a programme of hospital insurance. Preliminary planning progressed through 1945 and 1946 in co-operation with the Saskatchewan Hospital Association, on the one hand, in arranging for the hospital benefits and with the Saskatchewan Association of Municipalities, on the other, in arranging for the tax collecting mechanism. The Saskatchewan Hospitalization Act was passed in 1946 and the plan began operation in 1947. It was modelled along the lines of a Blue Cross plan except that it was compulsory. The original premium schedule was $5 a year for each member of the family to a maximum of $30. The tax for the coming year was payable during the period September 1 to November 30 at any municipal office. Municipalities received a commission of 5 per cent for collection of the tax. The provincial govern-

[1] Department of National Health and Welfare, *Selected Public Hospital and Medical Plans in Canada*, Ottawa: Queen's Printer, July 1955.

ment continued payment into the hospitalization fund of equivalent amounts for each of three programmes that it had financed prior to the introduction of the plan, namely, hospital care for recipients of public assistance, hospital care for all cancer patients, and approximately $1 million in the form of hospital per diem grants.

Since there had been no Blue Cross plan in Saskatchewan, it was necessary to work out policies and procedures that would be applicable in this new situation. The task was complicated by the fact that the bulk of the Saskatchewan hospitals was small, that there were serious personnel shortages, and that the population was widely scattered.

Among the new methods and procedures developed for the hospital plan were the following:

(1) A system of municipal tax collection that, in view of all previous history with poll taxes, was remarkably efficient. Each year the hospital plan was able to have insured approximately 97 per cent of the total population.

(2) The plan put into operation for the first year, the hospital payment system known as the "units of Credit" system proposed by the then Secretary of the Canadian Hospital Association, Dr. Harvey Agnew. Unfortunately, the plan was not as workable in practice as it was attractive in theory and had to be abandoned at the end of the first year. Eventually, the Saskatchewan Hospital Plan introduced the "fixed plus variable costs" formula for paying hospitals which has been adopted by British Columbia and Manitoba since.

(3) Saskatchewan Hospital Services Plan brought its hospital consulting services to a high stage of expertise and the personnel in the hospitals standards division have been used very extensively by the hospitals in raising their standards.

(4) The hospital services plan encouraged the development of a strong hospital association and recommended that hospitals include a higher fee for membership in the Saskatchewan Hospital Association in order to permit the establishment of a permanent hospital association secretariat.

(5) The Saskatchewan plan was administered, from 1947 to 1950 by a Health Services Planning Commission, of which the Chairman was the only full-time commissioner. Two of the other four commissioners were Directors of Divisions with the Commission and the other two were the Deputy Minister of Health and the Deputy Provincial Treasurer. In 1950, administrative responsibility was transferred to the Department of Public Health assisted by the Health Services Planning Commission which was broadened to include five members

of the public, five members from the health professions, and with a reduction from five to two in the membership representing the government.

The Saskatchewan Hospital Services Plan was faced, like all other prepayment plans, with rising costs and it became necessary in 1948 to supplement the premium system of revenue collecting with an increase in the sales tax. From 1936 to 1947, the retail sales tax had been 2 per cent. In 1948, the government raised the amount to 3 per cent and allocated the revenue from the 1 per cent increase to the Saskatchewan Hospital Services Plan.

The Saskatchewan Hospital Plan served as a testing ground for the solution of many problems associated with universal coverage and administration by a government body. In 1948, when British Columbia and Alberta were considering the introduction of their programmes, and again, from 1956 to 1960, when other provinces were preparing to accept the terms of the National Hospital Insurance Act, all the provinces sent delegations to study the Saskatchewan organization and procedures.

British Columbia Hospital Insurance Service

Although, as indicated earlier, British Columbia had a Blue Cross plan, it had not succeeded in enrolling a significant proportion of the population. Accordingly, in 1948, the British Columbia government introduced a Hospital Insurance Act, with the benefits very similar to those of the Saskatchewan plan but with a different system of taxation and tax collection.

Whereas the original premium structure of the Saskatchewan plan had increased the premium as the size of family increased, the British Columbia plan put a heavy premium on single persons, a reduced premium for the spouse in two-member families, and no increase whatever in the premium for any children in the family. The orginal tax was $21 for a single person and $33 for a family of two or more. Taxes were payable by payroll deduction if the employer volunteered to make deductions for this purpose. Only a small number of employers undertook the responsibility for this method. All other persons paid their tax through 61 district offices scattered throughout the province. At the end of the first year collections were 30 per cent below the anticipated revenue. It was decided to make payroll deduction compulsory and this did have the effect of increasing revenues substantially.

Dissatisfaction with the collection record and criticisms of the methods of administration led to the appointment of a Legislative Inquiry Committee and this Board proposed major changes. With some changes in the premium structure, and collection methods, there was some improve-

ment but, finally, on April 1, 1954, the premium system of tax collection was abolished and the Government announced an increase from 3 to 5 per cent in the retail sales tax, the additional revenues being obviously allocated to, but not specifically ear-marked for, the hospital insurance programme.

With the switch to sales tax financing, most of the problems that had faced the administration of the hospital plan disappeared. There still remained, of course, the problems of relationships between the hospital plan and the hospitals, which centred mainly on questions of meeting the costs of rising utilization and rising standards.

The British Columbia plan had been administered, from the beginning, by a single executive, called the Commissioner, responsible directly to the Minister of Health. In 1959, the title was changed to Deputy Minister of Hospital Insurance.

Alberta Hospital Services Plan

The Alberta Hospital Services Plan was launched in June 1949, and, unlike that of Saskatchewan, was based on the existing municipal hospital insurance programmes administered by municipal councils. The Saskatchewan and British Columbia hospital plans had included as benefits all of the required services of a hospital and had made no distinction between the basic services of room, board, basic nursing care, dressings etc., and what had come to be called in most hospitals (and in most of the Blue Cross programmes) the "special services" or "extras" of operating room, delivery room, drugs, anaesthesia, radiological and laboratory services. The Alberta proposal made the distinction used by Blue Cross plans and, in its original version the programme included only the basic benefits and not the "special services".

The financial proposal of the provincial government was to establish for each of five categories of hospitals a standard ward rate. It undertook to pay to the municipality of residence of the insured person one-half of that cost, with the municipality paying the balance of the cost from municipal tax sources.

In 1953, the Province authorized, at a municipality's option, the adding of the second tier of benefits to the basic plan to cover the costs of what became officially called "Special Services".

Another basic feature of the traditional municipal hospital plans was retained, that of the payment of a $1 a day "deductible", by every patient for each day of care. When a municipality added the special services benefit, the deductible was increased to $2 a day.

From 1949 to 1958, therefore, when the Alberta government accepted the terms and conditions of the National Hospital Insurance Act, hospital

care in Alberta was financed by a "tri-party" arrangement, namely, the province, the municipality, and the patient. By 1954, 75 per cent of all patients entering hospitals were insured through this programme.

Newfoundland Hospital Services Plan

In 1949, when Newfoundland joined Confederation, it brought with it a hospital services plan combined with a medical services plan that covered about one-third of the population living chiefly in the outports. The individuals who voluntarily paid a modest premium were insured for both medical and hospital care in government-owned hospitals. The rates in the hospitals for those not insured were high enough to induce most people to become insured. The plan was, of course, heavily subsidized by the provincial government. Nurses and doctors alike, were employed on salary by the Department of Public Health which administered the programme. In 1957, the Province instituted the Childrens' Hospital Plan providing free hospitalization and out-patient services for children under 16 years of age.

While these various provincial plans were developing, the grants-in-aid programme described above was being expanded.

Hospital Insurance and Diagnostic Services Act, 1957

A variety of factors contributed to the decision, in 1956, to proceed with a national hospital insurance programme. There were, first, the successful provincial programmes in British Columbia and Saskatchewan, the more limited but expanding provincial-municipal programme in Alberta, and the programme in Newfoundland. Equally important was the successful operation of the Blue Cross plans, demonstrating in the other provinces that, even though they could not reach all the population (in Ontario, Blue Cross insured 40 per cent of the population in 1956) they were sound in principle and effective in their operating methods. This evidence was supplemented by the wide-spread operations of the insurance industry in sickness and accident coverage.

Another factor was the gradual reduction of the hospital bed and personnel shortage which had previously been of concern to a number of political leaders, especially in Ottawa and Ontario. The Hospital Construction Grant and other health grants had, in fact, achieved many of the objectives set for them in 1948 in preparing the way for a broader programme.

Despite the achievements of the methods of voluntary prepayment and commercial insurance, the hard realities could not be overlooked: that demands on provincial governments and municipalities for increased hospital grants were large and persistent; that even in Ontario with the highest proportion of the population accessible through pay-roll deduction, that only

two-thirds of the population had any degree of insurance protection, and much of this was inadequate; that most of the rest of the population could not afford the rising hospital charges; and that hospitals were by and large in serious financial difficulty. Accordingly hospital insurance was one of the most important issues discussed at the 1955 Federal-Provincial Conference, and for the reasons mentioned above, it was concluded that a universal, comprehensive programme was essential if the hospital needs of the Canadian people and the needs of hospitals were to be met. This Conference was followed by successive meetings of Federal and Provincial Ministers of Finance and Health, as well as of technical experts, and by the end of 1956, the main details of the Act had been hammered out. The same close Federal-Provincial co-operation at the ministerial and technical levels continued during 1957 in the formulation of the regulations and the terms of the Agreements. By 1961, all provinces were parties to Agreements under the Act and 99 per cent of the population was insured.

Because this programme probably affects more Canadians, both in its results and its costs, than any other joint Federal-Provincial programme, and because any extension of Federal-Provincial co-operation in health services cannot but be influenced by its main principles, it is important that we examine here what those principles are:

(1) It is a joint Federal-Provincial programme, that recognizes the constitutional position of the provinces and leaves responsibility for administration with them.

(2) The ultimate costs of the programme, and therefore the federal share (50 per cent),[1] is determined by the hospitals and the provincial governments, through the costs authorized and the volume of services provided.

(3) The services authorized as insured services under the Act are, by and large, all the in-patient and out-patient services normally provided at the standard ward level in an active treatment hospital, hospital for the convalescent, or a hospital for the chronically ill, but not in mental hospitals, tuberculosis sanatoria, or nursing homes. Perhaps the most significant new feature in regard to benefits introduced by the Act was the removal of any limitation on benefit-days. Hospital benefits are to be available as long as medically necessary.

(4) The programme was based on the assumption of universal coverage of all citizens on uniform terms and conditions regardless of age, sex, physical or economic condition. It also facilitated portability of benefits from province to province. The Act states that the programme must be "universally available", but an examination of the records indicates that the intent was that the administrative and

[1] See Item (7) below.

financial arrangements should be such as to insure every resident of a province including recipients of public assistance. This objective was achieved automatically in all provinces using a system of financing other than premiums, and even in those using the premiums method, the proportion of insured persons has been extraordinarily high even where voluntary participation—at least in principle—obtains.

(5) The Act assumes no change in the status of ownership of hospitals; moreover, it also assumes no change in the responsibility of management to direct and control the affairs of hospitals. (In the administration of the programmes in some provinces, we are not certain that this principle has been fully adhered to.)[1]

(6) The Act implies that services will be provided in the most economical way possible and by incorporating provisions for sharing of costs of out-patient as well as in-patient services.

(7) The formula for federal cost sharing provides that the Federal Government will pay one-half the cost of approved services to insured persons in all Canada, but that the contribution to a specific province will be proportionately higher in low-cost provinces than in high-cost provinces. It is not, however, a formula calculated on fiscal need. It does provide an incentive for a province to keep its total costs below the national average. There is also explicit in the Act the principle that the Federal Government will not in this programme share in capital costs, interest on loans, or depreciation except on equipment.

(8) The Act also rests on the principle that the legislation is not concerned solely with the "insurance" or financing mechanism; hence the requirement that each province indicate in its Agreement the means whereby it proposes to "license, inspect and supervise the standards of hospitals". In fact, the Act is primarily a legislative enactment to enable people to obtain the services they require, and secondarily, a financial arrangement to assist in payment for those services.

(9) Initially, it was decided that the Act would go into force when a majority of the provinces (6) having a majority of the population would conclude agreements providing for the introduction (or continuation) of programmes. However, following an Amendment the Act became operative on July 1, 1958, with only five provinces participating, although by January 1, 1959, seven provinces, by January

[1] See Chapter 14.

1, 1960, nine provinces and by January 1, 1961, all ten provinces were operating programmes. The Northwest Territories commenced their programme on April 1, 1960, and the Yukon, July 1, 1961.

The representations from hospital associations, medical associations, provincial governments, and consumer groups together with our own investigations, make it clear that, by and large, the basic foundations of the programme are sound, that it has financed hospital operations that could not otherwise have been possible, enabled people to obtain care that they would not otherwise have received, and prevented, for many individuals and families, a substantial part of the financially crippling blows of prolonged illness.

The programme appears to us a sound blend of federal financial support and respect for provincial responsibility. In fact, it goes beyond that, for in its administration it utilizes a number of joint Federal-Provincial committees and working parties. It is a remarkably successful example of what has long been termed "cooperative federalism".

How have the provinces organized their administration and financing? How have the provinces organized their programmes and financed their share of the costs? As in so many other aspects of Canadian public life, diversity is readily apparent.

With respect to the over-all insurance agency, some provinces have used the existing Health Department, some have set up separate agencies under the direction of a Deputy Minister, and others have used representative Commissions. Two have switched from one to the other. The present arrangements are as follows:

Province	*Administrative Agency or Authority*
Newfoundland	Deputy Minister of Health
Prince Edward Island	Hospital Services Commission
Nova Scotia	Hospital Services Commission
New Brunswick	Deputy Minister of Health (previously a Commission)
Quebec	Deputy Minister of Health
Ontario	Hospital Services Commission
Manitoba	Hospital Services Commission (previously a single commissioner)
Saskatchewan	Deputy Minister of Health
Alberta	Director of Hospitals
British Columbia	Deputy Minister of Hospital Insurance

As seen above, four provinces use the representative Commission and six place responsibility on a single head. All agencies are, of course, responsible to a minister, usually the Minister of Health.

With respect to financing, the experience again is varied, with some provinces having used different methods at different times and some using a combination.

The first province to introduce a programme, Saskatchewan, in 1947, started the pattern with the use of the premium method collected, in its case, by municipal authorities who were paid a commission for the extra work entailed. In 1950 the retail sales tax was increased from two per cent to three per cent and the revenue from the increase allocated to the Hospitalization Fund. In addition, a contribution from Provincial General Revenues was necessary. At present, the combination of premiums and sales tax is still used.

The second plan, introduced by British Columbia in 1949, followed the Saskatchewan pattern, but without the advantage of a similar municipal organization and with the disadvantage of a highly transient labour force especially in the lumber industry. Because of the resulting difficulties the premiums system was abandoned in 1952 and a simultaneous increase from three to five per cent in the retail sales tax augmented general revenues which remain the only provincial source of funds.

Alberta's programme began in 1949 with a system of grants-in-aid to municipal plans, the province's contribution coming from general revenues. Municipalities collected their share from property taxes and premiums from non-property owners. With the introduction of the federal programme, the programme is now provincially administered and financed. A small levy is imposed on municipalities for hospital construction, and municipalities are also responsible for any hospital deficits.

Manitoba and Ontario both finance their share largely from the revenues derived from premiums, collected by employers, municipal and other collectors, and by direct payment to the Commission.

Prince Edward Island and New Brunswick both financed their programmes, in the beginning, from premiums, but later abandoned the premiums method and now rely on provincial general revenues.

Nova Scotia has financed its share of the programme from the beginning with a 3 per cent retail sales tax specifically levied for this purpose.

The Quebec programme, introduced in 1961, is the largest of the programmes to be financed from provincial general revenues, although there had been a "hospital retail sales tax" before the programme began.

Newfoundland had long used a premium system but now finances its share from provincial general revenues.

The following outline summarizes the methods of financing the major provincial share of the cost of the hospital insurance programme.

Province	Premiums	Other Ear-Marked Tax	Provincial General Revenues	Other
Newfoundland			x	
Prince Edward Island			x	
Nova Scotia		Retail sales tax		
New Brunswick			x	
Quebec		Retail sales tax	x	
Ontario	x			
Manitoba	x	6% increase personal income tax—1% taxable corporation		
Saskatchewan	x	Retail sales tax		
Alberta			x	Per diem charge[1]
British Columbia		Retail sales tax	x	Per diem charge[2]

[1] $1.50-$2.00 per day depending on the size of the hospital. $1.00 per day charge for newborns.

[2] $1.00 per day. No charge for newborns.

SOURCE: *Annual Report* of the Minister of National Health and Welfare, under the Hospital Insurance and Diagnostic Services Act, Ottawa: Queen's Printer, March 1963, p. 9.

But what of the hospitals? Here the problems are changing. Already we may be inclined to forget the problems of the collection department before the programme began and the limitations on budget or expansion imposed by the maximum charges that patients could reasonably be expected to pay. Now the thoughts are of the limitations of budget imposed by the hospital insurance agencies. It is our opinion—and we recognize it can not be proved —that, except perhaps for a relatively few highly endowed hospitals or those serving primarily upper income patients, hospitals across Canada are faring far better than they would have in the absence of the programme. There are indications of better service: for example, in Nova Scotia, total paid hours of work per patient day have increased from 12.4 in 1959 to 15.8 (the highest in Canada) in 1961. Nursing personnel hours per patient day in Ontario

increased in the same period from 6.5 to 6.9, while in Alberta they rose from 5.8 to 6.3. Hospital facilities have also expanded rapidly, as most provinces introduced new methods of capital financing.

The Annual Report of the Minister of National Health and Welfare under the Hospital Insurance and Diagnostic Services Act includes very detailed statistical information on the operation of the programme. However, certain of these data are of more general interest and importance and will be presented here.

Number of Insured Persons

Since the beginning of the programme in July, 1958, the number of insured persons has increased as a result of more provinces coming into the programme and the population increase in all provinces. In all but Ontario, coverage is either automatic (where financed from general revenues) or compulsory (where financed by premiums). Table 10-2 shows that even in Ontario, the proportion of eligible persons insured is 96.0 per cent; in Manitoba 95.2; and in Saskatchewan 97.7 per cent.

TABLE 10-2 NUMBER OF INSURED PERSONS ON MARCH 31, 1963, BY PROVINCE, AS REPORTED FOR PURPOSES OF ADVANCE PAYMENTS

Province	Number of Insured Persons March 31, 1963*	Estimated Population June 1, 1963**	Percentage of Persons Insured
Newfoundland	481,000	481,000	100
Prince Edward Island	105,000	107,000	98.1
Nova Scotia	733,000	756,000	99.6
New Brunswick	605,000	614,000	98.5
Quebec	5,465,000	5,468,000	99.9
Ontario	6,188,741	6,448,000	96.0
Manitoba	904,631	950,000	95.2
Saskatchewan	911,661	933,000	97.7
Alberta	1,398,000	1,405,000	99.5
British Columbia	1,687,000	1,695,000	99.5
Yukon	15,000	15,000	100
Northwest Territories	25,000	25,000	100
CANADA	18,519,033	18,897,000	98.0

**Annual Report* of the Minister of National Health and Welfare, under the Hospital Insurance and Diagnostic Services Act, March 1963, Table A, p. 12.

**Dominion Bureau of Statistics, *Estimated Population by Sex and Age Group, for Canada and Provinces, 1963*, Ottawa: Queen's Printer, 1963.

Volume of Care

The volume of insured hospital days of care received by 17,741,000 insured Canadians in 1961 was 31,248,000 or an average of 1,761 days for each 1,000 insured persons.[1] The average was lower than in 1960 (1,808) a result of Quebec's entering on January 1, in 1961. This province experienced an average of 1,553 days per 1,000,[2] as shown in Table 10-3.

From Table 10-3, it will be noted that the average days of care per thousand vary greatly, from a low of 1,145 in Newfoundland and 1,478 in Nova Scotia to a high of 2,244 in Alberta and 2,246 in Saskatchewan. These two latter provinces have had their programmes in operation (by the year of these statistics, 1961) 12 and 14 years, respectively, and one cannot help ask if this is the long-run expectation in all provinces. A resident of Saskatchewan or Alberta receives almost twice as much hospital care as a resident of Newfoundland, almost 50 per cent more than a resident of Nova Scotia, and about one-fifth more than a resident of Ontario.

Both the Saskatchewan and Nova Scotia figures have remained fairly constant, as has British Columbia's, another plan with (by 1961) 12 years' experience, although its rate is only three-fourths that of Alberta and Saskatchewan. It will be noted that the highest rates of in-patient utilization are in those provinces not offering a full range of out-patient benefits. It is also worthy of note and cause for serious concern that these are among the highest known rates in the world.

The impact of the insurance programme on patterns of responsibility for paying hospital bills is, of course, almost as complete as had been hoped. As Table 10-4 reveals, 87.8 per cent of all hospital days of care provided in Canada in 1961, were paid for through the insurance programme, and if the undistributed days, 1.7 per cent, are pro-rated, and the 1.3 per cent of days of care provided to non-residents are deducted, the proportion of insured patient days reaches approximately 90 per cent. Of the remaining 10 per cent, 6.3 per cent remain a federal responsibility, leaving not much more than 1 per cent as uninsured care for uninsured residents.

Hospital utilization is related to facilities available, and is calculated on the basis of the number of admissions and the average length of stay, which, in combination, give total days of care and rates per thousand population. Tables 10-4 and 10-5 show the wide variations among the various provinces.

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[1] Table 14-1 refers to hospitalization rates for non-insured persons as well as insured.

[2] This is actually an understatement; 60 Quebec hospitals did not report plan days.

TABLE 10-3 INSURED PATIENT-DAYS DURING YEAR, WITHIN RESPECTIVE PROVINCES, AND RATES PER 1,000 INSURED POPULATION, ADULTS AND CHILDREN, BY PROVINCE, 1959-1961

Province	Number of Hospitals Reporting			Insured Population*			Insured Patient-Days During Year†			Insured Patient-Days per 1,000 Insured Population		
	1959	1960	1961	1959	1960	1961**	1959	1960	1961	1959	1960	1961
Newfoundland	40	40	42	448,000	457,000	468,833	528,852	524,656	536,918	1,180.5	1,148.0	1,145.2
Prince Edward Island	—	9	9	—	86,809	86,431	—	140,857	149,805	—	1,622.6	1,733.2
Nova Scotia	48	48	48	696,000	702,000	711,000	999,955	1,030,541	1,051,424	1,436.7	1,468.0	1,478.8
New Brunswick	—	38	40	—	522,255	604,000	—	929,674	976,537††	—	1,780.1	1,616.8
Quebec	—	—	235[a]	—	—	5,202,167	—	—	8,077,091[a]	—	—	1,552.6[a]
Ontario	298	323	329	5,535,980	5,698,582	5,901,608	9,686,803	10,587,204	11,141,030[b]	1,749.8	1,857.9	1,887.8
Manitoba	86	100	100	873,749	882,749	903,460	1,451,929	1,543,755	1,613,598[c]	1,661.7	1,750.1	1,786.0
Saskatchewan	158	159	160	878,060	888,419	889,115	1,952,785	1,990,543	1,997,712	2,224.0	2,240.5	2,246.9
Alberta	117	121	162	1,232,000	1,272,000	1,312,083	2,360,000	2,540,354	2,944,358	1,915.6	1,997.1	2,244.0
British Columbia	104	112	108	1,556,000	1,594,000	1,625,750	2,434,785	2,595,285	2,707,098	1,564.8	1,628.2	1,665.1
Yukon	—	—	3	—	—	14,000	—	—	24,871	—	—	1,776.5
Northwest Territories	—	—	22	—	—	22,417	—	—	27,402	—	—	1,222.4
Total Provinces Participating Throughout Year	851	950	1,258	11,219,789	12,103,098	17,740,864	19,415,109	21,882,869	31,247,844	1,730.4	1,808.0	1,761.3
										Excluding Quebec		1,847.9

*Based on annual average number of insured persons under Provincial Plans, Health Insurance, Department of National Health and Welfare.
**Preliminary estimate.
†Provincial Plan responsibility days for hospitals located in the respective provinces, excluding out-of-province insured hospital care.
††Includes an estimated 35,000 days in Lancaster D.V.A. Hospital.
[a]Excluding 60 Quebec hospitals not reporting Provincial Plan days.
[b]Includes an estimated 5,694 days in Lady Willingdon Indian Hospital.
[c]Includes an estimated 59,734 days in Deer Lodge Veterans Hospital.

SOURCE: *Annual Report* of the Minister of National Health and Welfare, under the Hospital Insurance and Diagnostic Services Act, Ottawa: Queen's Printer, March 31, 1963, Table A-1.

TABLE 10-4 PERCENTAGE DISTRIBUTION OF HOSPITAL-DAYS OF CARE, ADULTS AND CHILDREN, BY RESPONSIBILITY FOR PAYMENT, BY PROVINCE, 1961

Province	Provincial Plan	Insured Residents Care not Responsibility of Provincial Plan	Uninsured Residents of Province	Non-residents of Province	Workmen's Compensation Boards	Federal Government	Undistributed Days*	Total Patient-Days	Number of Hospitals Reporting
Newfoundland	92.0	3.5	—	0.6	1.8	2.1	—	100.0	42
Prince Edward Island	89.2	2.2	2.5	2.0	1.0	3.1	—	100.0	9
Nova Scotia	89.1	0.2	0.2	1.4	1.5	7.6	—	100.0	48
New Brunswick**	86.9	—	—	3.3	1.9	7.9	—	100.0	40
Quebec†	85.5	0.2	0.1	0.9	1.2	6.6	5.4	100.0	282
Ontario††	88.5	0.2	2.0	1.2	1.8	5.4	0.9	100.0	331
Manitoba[a]	86.9	1.6	0.1	3.1	1.2	7.1	—	100.0	100
Saskatchewan	93.8	—	0.9	1.6	1.3	2.4	—	100.0	160
Alberta[b]	91.5	0.1	0.1	1.7	1.7	4.9	—	100.0	162
British Columbia	83.4	1.4	0.3	0.8	2.3	11.8	—	100.0	108
Yukon	82.9	0.7	—	8.6	4.0	3.8	—	100.0	3
Northwest Territories	65.2	0.7	0.2	6.2	2.1	25.6	—	100.0	22
CANADA	87.8	0.4	0.9	1.3	1.6	6.3	1.7	100.0	1,307

*No information available on distribution by responsibility for payment.
**Includes an estimate of 35,000 Provincial Plan days, 85,000 federal days and 1,598 Workmen's Compensation days in Lancaster D.V.A. Hospital. Negative value for uninsured residents represents adjustment for previous year.
†12 hospitals did not report. Of 283 reporting hospitals 48 did not report distribution of patient days by responsibility for payment.
††Includes an estimate of 5,694 Provincial Plan days, 919 federal days, 413 uninsured resident days, and 22 non-resident days for Lady Willingdon Indian Hospital. The undistributed days represent non-Provincial Plan days in nursing homes.
[a]Includes an estimate of 59,734 Provincial Plan days, and 122,273 federal days in Deer Lodge Veterans Hospital.
[b]Includes 382,747 Provincial Plan days in nursing homes. No other nursing home days reported.

SOURCE: *Annual Report* of the Minister of National Health and Welfare, under the Hospital Insurance and Diagnostic Services Act, Ottawa: Queen's Printer, March 1963, Table A-2, pp. 72 and 73.

TABLE 10-5 TOTAL PATIENT-DAYS DURING YEAR, ADMISSIONS DURING YEAR, AND BEDS SET UP ON DECEMBER 31, PER 1,000 POPULATION, ADULTS AND CHILDREN, IN HOSPITALS LISTED IN HOSPITAL INSURANCE AGREEMENTS, BY PROVINCE, 1961

Province	Rate per 1,000 Population		
	Patient-days During Year	Admissions During Year	Beds and Cribs Set Up on December 31
Newfoundland	1,275.0	111.2	4.3
Prince Edward Island	1,604.6	155.1	6.2
Nova Scotia	1,600.4	148.3	5.6
New Brunswick	1,878.3	174.5	6.2
Quebec	1,795.2	138.0	6.1
Ontario	2,017.7	152.3	6.6
Manitoba	2,015.5	179.6	7.3
Saskatchewan	2,301.6	215.6	8.2
Alberta	2,414.6	196.4	8.5
British Columbia	1,992.5	175.4	6.6
Yukon	2,050.4	238.6	10.7
Northwest Territories	1,826.2	198.0	14.2
CANADA	1,951.9	157.7	6.6

SOURCE: *Annual Report* of the Minister of National Health and Welfare, under the Hospital Insurance and Diagnostic Services Act, Ottawa: Queen's Printer, March 1963, Table 4, p. 35

CONCLUDING SUMMARY

In this chapter, we have traced the developments of health insurance from its sporadic earliest beginnings, through payroll deduction plans in the collieries in Nova Scotia and the mines of Ontario and British Columbia on to hospital-sponsored prepayment plans, and into the modern period of comprehensive government-sponsored hospital programmes for the total population.

As examples of voluntary health insurance, we have cited the Blue Cross movement which was pioneered in Alberta and during the war years gained momentum in Manitoba, Quebec, the Maritimes, and British Columbia. In Ontario, by 1958, the Blue Cross, concentrating mainly on industrial and commercial groups, had enrolled 39 per cent of the population. Other categories of voluntary insurance were the medical care plans sponsored by professionals, such as Toronto's Associated Medical Services, the comprehensive Windsor Medical Services, and the Regina Medical Services. British Columbia was noteworthy for its plan on a provincial scale in 1940. Medical co-operatives, i.e., consumer-sponsored plans were also discussed.

Commercial insurance, both life and casualty, have been discussed, and contrasted with profession-sponsored plans in terms of benefits, service or indemnity, limited comprehensive, major medical, and in terms of experience-rating, waiting periods, waivers and carrier cancellation privileges.

Government or Public Health Insurance has been reviewed historically province by province. Municipal doctor services, wide-spread in Saskatchewan, were also used in Manitoba and Alberta as an inducement for doctors to settle in rural areas. British Columbia had a Royal Commission on Health Insurance as early as 1929, Alberta has had three medical insurance Acts on its statutes; Saskatchewan, at the urging of the Urban Municipalities Association and the Association of Rural Municipalities, and finally the Canadian Medical Association itself, established a committee on Social Security and Health Services which, in 1943, recommended a system of health insurance. Manitoba passed a Health Services Act in 1945. In the federal area, the events are reviewed leading up to the recommendation of the Haegerty Committee on Social Security, 1943, which approved the general principles of health insurance put forth in a Health Insurance Bill respecting public health, health insurance, the prevention of disease and other matters related thereto. Finally, the National Health Grants Programme of 1948 is described.

Public hospital insurance is likewise reviewed province by province, illustrating the pioneering programmes in British Columbia and Saskatchewan, as well as Alberta and Newfoundland. The 1955 Federal-Provincial Conference dealt with hospital insurance as an important issue and led to the formulation, in 1957, of a major breakthrough in Federal-Provincial health legislation, the Hospital Insurance and Diagnostic Services Act, under which by 1961, all ten provinces were operating programmes. The administrative and taxation arrangements for the programmes are cited as are the number of insured persons and the volume of care.

It is now a matter of record that the voluntary methods of insuring against illness or injury have contributed to safeguarding the health of Canadians in increasing numbers especially in the period following the Second World War; and that to date Canadians have, by and large, enjoyed a comparatively high level of medical care. In the matter of general hospital care we have now achieved a nearly universal programme for 99 per cent of the population, by a method of "cooperative federalism" which allows for provincial variations in implementation. This does not, however, mean that health services are universal or comprehensive. Half of our population still lacks adequate medical insurance. Moreover, medical and hospital care, being mainly curative and diagnostic, represent only part of the whole spectrum of health services.

Three provinces have shown initiative in public action. Saskatchewan has established an all-inclusive, compulsory plan which met with considerable reaction on the part of the medical profession. Alberta and Ontario have introduced legislation basically providing for voluntary coverage of certain medical services, with subsidies for specified categories of citizens to help with the payment of premiums. Nevertheless, the limitations of the Alberta and the Ontario plans, and the difficulties experienced in Saskatchewan, point out some problems of leaving health planning to the individual initiative and financial ability of each province. It becomes evident that a formula must be sought on a national scale, with Federal-Provincial agreement on programmes to ensure the provision and distribution of resources for the achievement of the best possible health care; preventive, diagnostic, curative and rehabilitational for all Canadians, regardless of age, income, or state of health. This is discussed in Chapter 18.

11

Cost of Health Services

RECORD OF HEALTH SPENDING

In Chapter 3 we have stated what we consider to be health services and in calculating the amount of money that Canadians spend on health we have prepared our estimates accordingly. Essentially we have concerned ourselves with the cost of providing personal health care, of undertaking health research and of educating health personnel; along with the provision of capital facilities required to support these activities.

Personal health care has been divided into two parts: the cost of services provided for individuals (whether the cost is borne individually or collectively), and public health services. Services provided for individuals consist of physicians' services, dentists' services, hospital services, the administrative costs of operating public and private prepayment plans, prescribed drugs and a category "other services" that includes the services of nurses rendered out of hospital and private duty nurses employed in hospitals, chiropractors, osteopaths, optometrists and the cost of prosthetic appliances and devices and hearing aids. The cost of dentures is included with dentists' services, and spectacles with optometrists' services. Public health services consist of services rendered by government agencies such as health planning and organization, environmental sanitation and the control of infectious disease but exclude, as far as possible, diagnostic and treatment services. Health research includes medical, dental, nursing and other health research. The costs of research in the development of ethical drugs is included in expenditures on these drugs. Education of health personnel covers the medical, dental and nursing professions.[1]

Health Expenditures Defined

We recognize that in concentrating our attention on personal health care, certain expenditures have been excluded such as those for school milk or non-prescribed pharmaceuticals that may well affect health, and

[1] Education costs of these three groups are estimated to represent about 90 per cent of total educational costs of health personnel.

included expenditures such as institutional care for the mentally retarded or the senile aged that could be classified in part as educational or welfare expenditures. Such problems arise whatever classification method is adopted. The definition which we have chosen includes those services that were generally presented to us during our hearings as being an integral part of personal health care, and that have traditionally been regarded as such or in the case of newer services have become accepted as such by the health professions.

It has not been possible to obtain an estimate of the amount spent on some small sectors of specific health services. In such cases, expenditures have been included in a larger group called "other services". We have not included any estimate of the value of care provided free by physicians, dentists or other health practitioners, or at less than provincial fee schedules. Indeed given the difficulties that arise in obtaining reliable and meaningful data, estimates of expenditures on prescribed drugs are presented only for the years since 1945, public health services since 1947 and for education and research only for the past several years. All the estimates are subject to some margin of error that becomes greater the further back in time they go; but we are confident that the data include all significant health expenditures, and that the margin of error is not so great as to prevent us from illustrating the extent of the increasing amount of health care received by the average Canadian and the changing pattern of health expenditures over the past generation.

It should be clear that expenditures on health services are not, by any means, equivalent to the cost of illness or death. The cost of health services and facilities is no more than the market value of resources used in the prevention, diagnosis and treatment of illness or the rehabilitation of the disabled. The cost of illness also involves the lost production due to premature mortality and long-term disability along with the costs of pain and suffering for individuals that cannot be measured in monetary terms. Some of these costs will be examined in Chapter 12. Here we are concerned with the assessment of the costs of personal health care services over the past generation and of the major forces that have affected the level and composition of spending both for all health services and the individual health services. To this end we are presenting first a discussion of the importance of health services in the Canadian pattern of total spending, followed by a discussion of the behaviour of expenditures on individual health services.

Rising Health Expenditures

In the thirty-five years between the prosperous periods of the mid nineteen twenties to 1961, Canadians increased their spending on personal health services nearly tenfold. As shown in Table 11-1, and Chart A, expendi-

tures on all personal health services, excluding prescribed drugs, rose from $166 million in 1926 to $1,612 million in 1961; while if prescribed drugs are included the increase was from roughly $175 million in 1926 to $1,724 million in 1961. Similarly, as can be seen from Tables 11-4 and 11-6, expenditures on public health services rose from $21 million in 1947 to $105 million in 1961 so that the total cost of personal health care at the beginning of the nineteen sixties amounted to $1,829 million. Table 11-7 shows that when capital expenditures, research and the cost of health education are included, Canadians spent $2,019 million on all health items in 1961.[1]

What have been the factors that lie behind this increase in health care spending? What forces of demand and supply have caused such a large increase in total spending? To answer these questions it is necessary first to observe what has happened to expenditures on other goods and services, to indicate the importance of health services in the total consumption pattern of the nation as well as the pattern of total production and to observe whether the trend in health expenditures differs significantly from expenditures on other goods and services. Then it is necessary to examine the significance of population growth, per capita consumption and the prices of health services since it is these factors that largely determine the level of spending. In the following sections we attempt to answer these questions and to assess the importance of the individual factors already mentioned.

Health Expenditures and Gross National Expenditure

Large as the sums spent on health undoubtedly are, as a proportion of all the goods and services that individuals and households buy (total personal expenditure on consumer goods and services), or of the total amount of goods and services produced in Canada (Gross National Expenditure or GNE), expenditures on health care have remained small. Excluding prescribed drugs, personal health expenditures, as shown in Table 11-1, rose from 3.2 per cent of GNE and 4.7 per cent of total personal spending in 1926 to 4.3 and 6.5 per cent respectively in 1961. Through most of this period, however, the relevant percentages have been in the neighbourhood of 3.0 and 4.5 per cent. When prescribed drugs and public health services are included in the cost of health services, Table 11-6 indicates that during the post-war period total expenditures were below 4 per cent of GNE up to 1958 and after that date remained below 5 per cent. In short, as their incomes have continued to grow, Canadians have purchased not only more health services but more of most other goods and services as well.

[1] Including non-prescribed drugs and pharmaceuticals, total expenditures amounted to $2,229 million.

TABLE 11-1 EXPENDITURES ON PERSONAL HEALTH SERVICES BY TYPE OF EXPENDITURE AND PERCENTAGE OF GROSS NATIONAL EXPENDITURE (GNE) AND TOTAL PERSONAL EXPENDITURES SPENT ON PERSONAL HEALTH SERVICES, CANADA, 1926-1961

Year	Physicians' Services	Dentists' Services	Hospital Services	Other Health Services	Admin. Cost of Health Insurance	All Services	Percentage of Total Personal Expenditures	Percentage of GNE	Prescribed Drugs	Total Expenditures	Percentage of Total Personal Expenditures	Percentage of GNE
	$ '000,000								$ '000,000			
1926	64.6	19.5	52.0	27.0	3.1	166.2	4.67	3.23				
1927	69.2	20.8	54.0	27.0	3.4	174.4	4.47	3.14				
1928	74.1	22.3	56.0	31.0	3.5	186.9	4.32	3.09				
1929	77.5	23.3	57.0	32.0	3.4	193.2	4.17	3.15				
1930	71.1	21.4	58.0	28.0	3.5	182.0	4.16	3.18				
1931	63.6	19.1	58.0	26.0	2.9	169.6	4.47	3.61				
1932	45.9	13.8	55.0	19.0	2.3	136.0	4.24	3.55				
1933	37.9	11.4	55.3	17.0	2.4	124.0	4.14	3.53				
1934	36.7	11.1	61.3	16.0	2.6	127.7	4.00	3.21				
1935	43.8	13.2	68.1	19.0	2.8	146.9	4.38	3.40				
1936	44.5	13.4	75.5	20.0	3.2	156.6	4.39	3.37				
1937	50.1	15.1	76.0	21.0	3.6	165.8	4.25	3.15				
1938	54.8	16.7	81.4	21.0	3.9	177.8	4.54	3.37				
1939	57.1	17.6	79.3	19.0	4.1	177.1	4.42	3.14				
1940	62.8	19.0	89.7	23.0	4.3	198.8	4.41	2.95				
1941	66.7	21.9	89.2	24.0	4.9	206.7	4.03	2.48				
1942	68.9	21.2	93.1	24.0	5.5	212.7	3.84	2.06				
1943	68.6	23.1	102.2	22.0	5.4	221.3	3.79	2.00				
1944	66.0	25.5	115.3	23.0	7.5	237.3	3.76	2.00				
1945	76.2	29.5	129.5	25.0	9.5	269.7	3.85	2.28	23.2	292.9	4.18	2.47
1946	86.7	36.3	150.7	28.0	12.6	314.3	3.89	2.65	26.8	341.1	4.22	2.88
1947	91.0	38.8	186.7	34.0	15.2	365.7	4.00	2.78	28.9	394.6	4.31	3.00
1948	101.4	40.0	215.0	36.0	18.0	410.4	4.04	2.71	32.4	442.4	4.36	2.93
1949	117.0	43.0	247.1	37.5	20.3	464.9	4.23	2.84	34.6	499.5	4.54	3.06
1950	135.0	46.5	283.3	39.5	23.0	527.3	4.35	2.93	37.8	565.1	4.66	3.14
1951	153.0	51.0	326.4	41.5	25.1	597.0	4.40	2.82	42.9	639.9	4.72	3.02
1952	168.0	56.0	356.5	43.0	28.9	652.4	4.39	2.72	46.2	698.6	4.70	2.91
1953	176.6	60.5	404.0	45.0	32.1	718.2	4.58	2.87	48.8	767.0	4.84	3.07
1954	188.6	66.4	446.8	50.0	35.7	787.5	4.84	3.17	52.1	839.6	5.16	3.38
1955	206.5	68.6	480.0	55.0	39.8	849.9	4.86	3.13	59.5	909.4	5.19	3.35

TABLE 11-1 EXPENDITURES ON PERSONAL HEALTH SERVICES BY TYPE OF EXPENDITURE AND PERCENTAGE OF GROSS NATIONAL EXPENDITURE (GNE) AND TOTAL PERSONAL EXPENDITURES SPENT ON PERSONAL HEALTH SERVICES, CANADA, 1926-1961—*Concluded*

Year	Physicians' Services	Dentists' Services	Hospital Services	Other Health Services	Admin. Cost of Health Insurance	All Services	Percentage of Total Personal Expenditures	Percentage of GNE	Prescribed Drugs	Total Expenditures	Percentage of Total Personal Expenditures	Percentage of GNE
	$ '000,000								$ '000,000			
1956	240.1	81.5	529.8	65.0	40.1	956.5	5.05	3.13	71.8	1,028.3	5.43	3.36
1957	269.2	87.3	586.7	70.0	44.9	1.058.1	5.24	3.31	84.5	1,142.6	5.66	3.58
1958	295.5	98.1	640.1	85.0	50.4	1,169.1	5.48	3.55	90.3	1,259.4	5.88	3.83
1959	326.8	100.1	734.1	95.0	63.1	1,319.1	5.81	3.78	100.5	1,419.6	6.28	4.07
1960	354.5	112.4	826.7	105.0	65.8	1,464.4	6.20	4.04	107.5	1,571.7	6.65	4.34
1961	383.2	118.8	923.8	115.0	71.6	1,612.4	6.55	4.31	111.5	1,723.9	7.00	4.61

NOTES: 1. Physicians' services include all services rendered by physicians in private practice as well as personal health services rendered by public and privately employed salaried physicians. Personal medical services rendered by salaried physicians in hospitals are included in hospital expenditures. Includes cost of prescribed drugs sold by physicians.

2. Dentists' services include all services rendered by dentists in private practice as well as personal health services rendered by salaried dentists.

3. Hospital services include all services rendered in public and private, acute, chronic, convalescent, mental and tuberculosis hospitals. Hospital services rendered in National Defence hospitals are excluded. Includes expenditures on prescribed drugs distributed by hospitals. Expenditures are gross operating expenditures of all hospitals.

4. Other services include services rendered by private duty nurses and nurses employed outside of hospitals by non-governmental agencies, chiropractors, osteopaths, and appliances.

5. Administrative costs of Health Insurance include administrative costs of public and private hospital and medical insurance programmes. Excludes administrative costs of accident and sickness insurance but include premiums returned, dividends credited to policy owners and increases in unearned reserves and advance premium accounts.

6. Personal expenditures include personal expenditures on consumer goods and services as classified by the National Accounts plus the cost of hospital care incurred by governments on behalf of individuals in mental, tuberculosis and federal hospitals and the administrative costs of public health insurance programmes.

7. Prescribed drugs includes all pharmaceuticals purchased on a physician's prescription from retail outlets, excludes drugs prescribed in hospitals, institutions other than hospitals, e.g., homes for the aged.

SOURCE: Madden, J. J., *Economics of Health,* a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964; Department of National Health and Welfare, *Expenditures on Personal Health Care in Canada,* 1953-61, Ottawa, March 1963. Dominion Bureau of Statistics, *National Accounts, Income and Expenditure, 1926-1961,* and supplementary data.

TABLE 11-2 PER CAPITA EXPENDITURES ON PERSONAL HEALTH SERVICES BY TYPE OF EXPENDITURE AND PERCENTAGE OF GNE, CANADA, 1926-1961

Year	Physicians' Services	Dentists' Services	Hospital Services	Other Health Services	Admin. Cost of Health Insurance	All Services*	Percentage of Per Capita GNE	Prescribed Drugs	Total Expenditures	Percentage of Per Capita GNE
	dollars							dollars		
1926	6.84	2.06	5.50	2.85	.34	17.59	3.23			
1927	7.18	2.16	5.60	2.80	.35	18.10	3.14			
1928	7.53	2.27	5.69	3.15	.36	19.00	3.09			
1929	7.73	2.32	5.68	3.19	.34	19.26	3.15			
1930	6.97	2.10	5.68	2.74	.34	17.83	3.18			
1931	6.13	1.84	5.59	2.51	.28	16.35	3.61			
1932	4.37	1.31	5.23	1.81	.22	12.94	3.55			
1933	3.56	1.07	5.20	1.60	.23	11.66	3.53			
1934	3.42	1.03	5.71	1.49	.24	11.89	3.21			
1935	4.04	1.22	6.28	1.75	.26	13.55	3.40			
1936	4.06	1.22	6.89	1.83	.29	14.30	3.37			
1937	4.54	1.37	6.88	1.90	.33	15.01	3.15			
1938	4.91	1.50	7.30	1.88	.35	15.94	3.37			
1939	5.07	1.56	7.04	1.69	.36	15.72	3.14			
1940	5.52	1.67	7.88	2.02	.38	17.47	2.95			
1941	5.80	1.90	7.75	2.09	.43	17.96	2.48			
1942	5.91	1.82	7.99	2.06	.47	18.25	2.06			
1943	5.82	1.96	8.66	1.87	.46	18.76	2.00			
1944	5.52	2.13	9.65	1.93	.63	19.86	2.00			
1945	6.31	2.44	10.73	2.07	.79	22.34	2.28	1.92	24.26	2.47
1946	7.05	2.95	12.26	2.28	1.03	25.57	2.65	2.18	27.75	2.88
1947	7.25	3.09	14.88	2.71	1.21	29.14	2.78	2.30	31.44	3.00
1948	7.91	3.12	16.77	2.81	1.40	32.00	2.71	2.53	34.50	2.93
1949	8.70	3.20	18.38	2.79	1.51	34.57	2.84	2.57	37.15	3.06
1950	9.85	3.39	20.66	2.88	1.68	38.46	2.93	2.76	41.21	3.14
1951	10.92	3.64	23.30	2.96	1.79	42.62	2.82	3.06	45.68	3.02
1952	11.62	3.87	24.66	2.97	2.00	45.12	2.72	3.20	48.32	2.91
1953	11.90	4.08	27.21	3.03	2.16	48.38	2.87	3.29	51.67	3.07
1954	12.34	4.34	29.23	3.27	2.34	51.51	3.17	3.41	54.92	3.38
1955	13.15	4.37	30.58	3.50	2.54	54.14	3.13	3.79	57.93	3.35
1956	14.93	5.07	32.95	4.04	2.49	59.48	3.13	4.46	63.94	3.36
1957	16.21	5.26	35.32	4.21	2.70	63.70	3.31	5.09	68.79	3.58
1958	17.30	5.74	37.48	4.98	2.95	68.45	3.55	5.29	73.74	3.83
1959	18.69	5.73	41.99	5.43	3.61	75.45	3.78	5.75	81.20	4.07
1960	19.84	6.29	46.26	5.88	3.68	81.95	4.04	6.02	87.95	4.34
1961	21.01	6.51	50.65	6.31	3.93	88.41	4.31	6.11	94.52	4.61

*Columns may not add up due to rounding.

SOURCE: Table 11-1.

TABLE 11-3 PERCENTAGE DISTRIBUTION OF EXPENDITURES ON PERSONAL HEALTH SERVICES, BY TYPE OF EXPENDITURE, CANADA, 1926-1961

Year	Physicians' Services	Dentists' Services	Hospital Services	Other Health Services	Administrative Cost of Health Insurance	All Services*	All Services	Prescribed Drugs	Total Expenditures
	Percentages						Percentages		
1926	38.9	11.7	31.3	16.2	1.9	100.0	—	—	—
1927	39.7	11.9	31.0	15.5	1.9	100.0	—	—	—
1928	39.6	11.9	30.1	16.6	1.9	100.0	—	—	—
1929	40.1	12.1	29.5	16.6	1.8	100.0	—	—	—
1930	39.1	11.8	31.9	15.4	1.9	100.0	—	—	—
1931	37.5	11.3	34.2	15.3	1.7	100.0	—	—	—
1932	33.7	10.1	40.4	14.0	1.7	100.0	—	—	—
1933	30.6	9.2	44.6	13.7	1.9	100.0	—	—	—
1934	28.7	8.7	48.0	12.5	2.0	100.0	—	—	—
1935	29.8	9.0	46.4	12.9	1.9	100.0	—	—	—
1936	28.4	8.6	48.2	12.8	2.0	100.0	—	—	—
1937	30.2	9.1	45.8	12.7	2.2	100.0	—	—	—
1938	30.8	9.4	45.8	11.8	2.2	100.0	—	—	—
1939	32.2	9.9	44.8	10.7	2.3	100.0	—	—	—
1940	31.6	9.6	45.1	11.6	2.2	100.0	—	—	—
1941	32.3	10.6	43.2	11.6	2.4	100.0	—	—	—
1942	32.4	10.0	43.8	11.3	2.6	100.0	—	—	—
1943	31.0	10.4	46.2	9.9	2.4	100.0	—	—	—
1944	27.8	10.7	48.6	9.7	3.2	100.0	—	—	—
1945	28.3	10.9	48.0	9.3	3.5	100.0	92.1	7.9	100.0
1946	27.6	11.5	47.9	8.9	4.0	100.0	92.1	7.9	100.0
1947	24.9	10.6	51.1	9.3	4.2	100.0	92.7	7.3	100.0
1948	24.7	9.8	52.3	8.8	4.4	100.0	92.7	7.3	100.0
1949	25.2	9.2	53.1	8.1	4.4	100.0	93.1	6.9	100.0
1950	25.6	8.8	53.7	7.5	4.4	100.0	93.3	6.7	100.0
1951	25.6	8.5	54.7	7.0	4.2	100.0	93.3	6.7	100.0
1952	25.7	8.6	54.7	6.6	4.4	100.0	93.4	6.6	100.0
1953	24.6	8.4	56.2	6.3	4.5	100.0	93.6	6.4	100.0
1954	23.9	8.4	56.7	6.3	4.5	100.0	93.8	6.2	100.0
1955	24.3	8.1	56.5	6.5	4.6	100.0	93.5	6.5	100.0
1956	25.1	8.5	55.4	6.8	4.2	100.0	93.0	7.0	100.0
1957	25.4	8.3	55.4	6.6	4.2	100.0	92.6	7.4	100.0
1958	25.3	8.4	54.7	7.3	4.3	100.0	92.8	7.2	100.0
1959	24.8	7.6	55.7	7.1	4.8	100.0	92.9	7.1	100.0
1960	24.2	7.7	56.4	7.2	4.5	100.0	93.2	6.8	100.0
1961	23.8	7.4	57.3	7.1	4.5	100.0	93.5	6.5	100.0

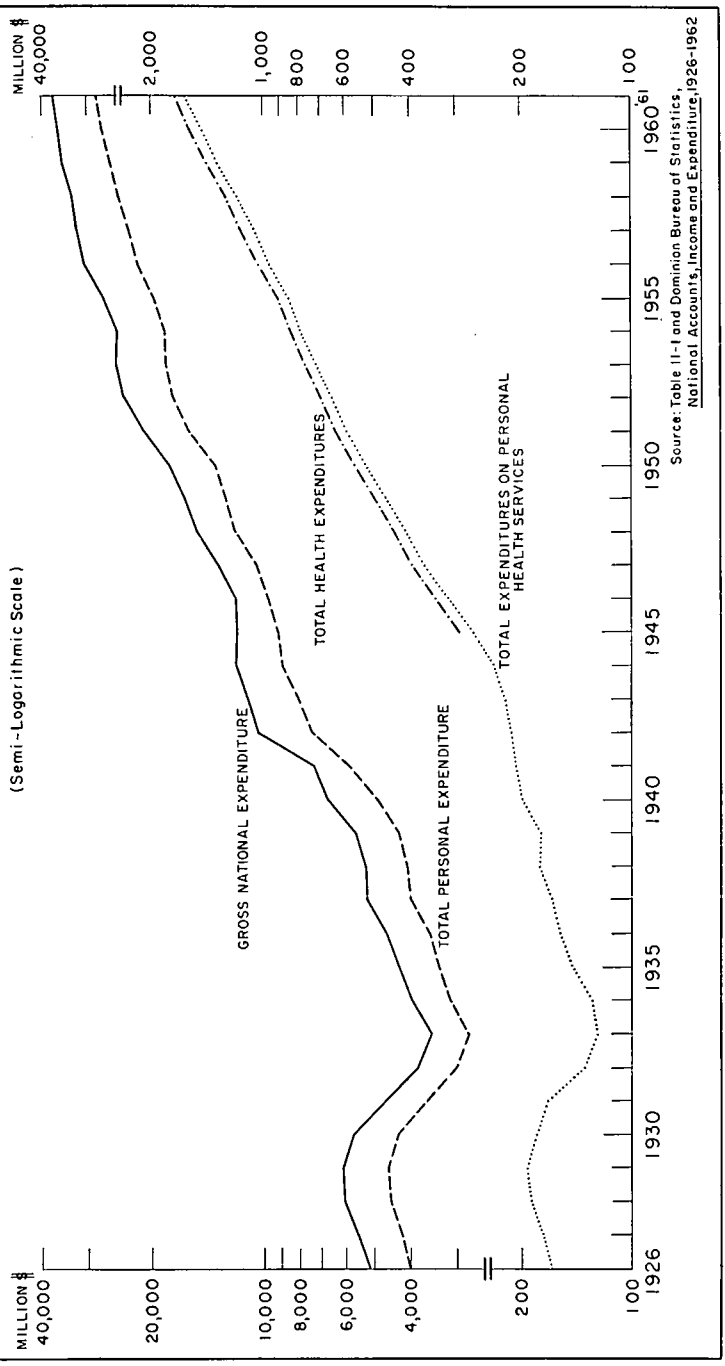
*Percentages may not add up to 100 due to rounding.

SOURCE: Table 11-1.

FIGURE-11A

EXPENDITURES ON PERSONAL HEALTH SERVICES, GROSS NATIONAL EXPENDITURE AND TOTAL PERSONAL EXPENDITURE, 1926–1961

(Semi-Logarithmic Scale)



Source: Table II-1 and Dominion Bureau of Statistics, National Accounts, Income and Expenditure, 1926-1962

Our examination of past economic growth trends indicates that Canadians have displayed a willingness to save a sizeable proportion of their growing incomes. But as their incomes have increased they have not generally tended to save an increasing proportion of income. As a consequence, Canadians now enjoy a high average level of consumption which compares favourably with most other countries and our per capita consumption in real terms is significantly higher than that of our forefathers.[1] There have, of course, been periods when the long-run upward trend in real per capita consumption has been checked. In the great depression of the nineteen thirties when a high level of unemployment of labour and a significant decline in the use of capital facilities reduced purchasing power, per capita consumption in real terms increased very little and in the period 1930-1934 actually declined. Again in the war-time and immediate post-war period, rationing, price controls and other direct economic controls, tended to prevent rising incomes from being transformed completely into rising consumption. Since 1946, the Canadian consumer has been free generally to purchase what he wishes, limited only by the size of his growing disposable income, and in this period he has acquired automobiles, houses, household equipment, television sets, books, records, sporting equipment, along with services such as sports, the theatre, foreign travel, education and health services in quantities unparalleled in our history.

Concept of "Need" and "Demand"

The continued increase in consumption, however, bears only a slight relationship to the need to survive; to the biological minimum needed to sustain life. Indeed it is determined increasingly by a desire for variety and quality in consumption rather than by the increased satisfaction of purely physical needs. New products and new needs are continually created in our society and consumption patterns have consistently reflected these developments. In these circumstances it is not surprising that health expenditures have reached a level unparalleled in Canadian experience while still accounting for a relatively minor proportion of total consumer spending.[2] The demand for a wider variety and a better quality of health services has been part of the pattern of a demand for a higher standard of living generally; it has not been something unique. Canadians purchased more medical and hospital services, and have used more specialists and higher quality hospital services. They also drive bigger and more powerful cars, live in larger, more comfortable homes and, increasingly take their vacations abroad or in other regions of Canada rather than at home.

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[1] Brown, T. M., *Canadian Economic Growth*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964, Chapter 6.

[2] For a discussion of health expenditures as investment in human capital rather than a consumption expenditure, see Chapter 12.

TABLE 11-4 NET EXPENDITURE ON GENERAL AND PUBLIC HEALTH, BY LEVEL OF GOVERNMENT, CURRENT AND CONSTANT (1957) DOLLARS, CANADA, 1947-1961

Year	Federal	Pro-vincial	Muni-cipal*	All Governments		Percentage of GNE	All Governments		Percentage of GNE	Municipal Expenditures on Sanitation
				Total Expenditure	Per Capita Expenditure		Total Expenditure†	Per Capita Expenditure		
	millions of current dollars				$		millions of constant (1957) dollars	$		millions of current dollars
1947	3	11	7	21	1.67	0.16	38	3.03	0.19	29
1948	10	12	8	30	2.34	0.20	49	3.82	0.24	35
1949	13	12	9	34	2.53	0.21	52	3.87	0.24	37
1950	16	13	9	38	2.77	0.21	55	4.01	0.24	41
1951	21	15	10	46	3.28	0.22	59	4.21	0.24	50
1952	23	17	11	51	3.53	0.21	64	4.43	0.24	53
1953	27	19	12	58	3.91	0.23	70	4.72	0.25	71
1954	30	20	12	62	4.06	0.25	71	4.64	0.27	140
1955	32	24	13	69	4.40	0.25	77	4.91	0.27	107
1956	34	24	15	73	4.54	0.24	79	4.91	0.25	130
1957	37	27	15	79	4.76	0.25	79	4.76	0.25	130
1958	40	31	16	87	5.09	0.26	84	4.92	0.26	130
1959	43	32	18	93	5.32	0.27	86	4.92	0.26	147
1960	44	37	20	101	5.65	0.28	90	5.04	0.26	153
1961	44	40	21	105	5.76	0.29	91	4.99	0.26	166

*Excludes sanitation.

†Deflated by using Dominion Bureau of Statistics, implicit price index for government current expenditures.

SOURCE: Hanson, E. J., *Public Finance Aspects of Health Services*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964

TABLE 11-5 GROSS INVESTMENT IN HOSPITALS, CURRENT AND CONSTANT (1957) DOLLARS, CANADA, 1945-1963.*

Year	Construction	Machinery	Total Expenditures	Per Capita Expenditures	Percentage of GNE	Total Expenditures	Per Capita Expenditures	Percentage of GNE
	millions of current dollars			$		millions of constant (1957) dollars	$	
1945	18.9	3.4	22.3	1.85	0.19	44.7	3.70	0.22
1946	23.8	4.5	28.3	2.30	0.24	56.5	4.60	0.28
1947	27.0	6.1	33.1	2.64	0.25	56.7	4.52	0.28
1948	44.0	11.6	55.6	4.34	0.37	85.4	6.66	0.41
1949	61.3	10.1	71.4	5.31	0.44	103.4	7.69	0.48
1950	62.3	10.7	73.0	5.32	0.40	100.8	7.35	0.44
1951	65.5	13.4	78.9	5.63	0.37	97.1	6.93	0.40
1952	81.4	11.9	93.3	6.45	0.39	106.1	7.34	0.40
1953	103.1	15.2	118.3	7.97	0.47	131.9	8.89	0.48
1954	106.3	15.2	121.5	7.95	0.49	133.0	8.70	0.50
1955	129.9	16.2	146.1	9.31	0.54	158.1	10.07	0.54
1956	109.9	18.8	128.7	8.00	0.42	132.7	8.25	0.42
1957	111.6	19.0	130.6	7.86	0.41	130.6	7.86	0.41
1958	136.2	25.4	161.6	9.46	0.49	158.0	9.25	0.49
1959	128.2	23.7	151.9	8.69	0.44	144.4	8.26	0.43
1960	125.3	30.7	156.0	8.73	0.43	145.2	8.13	0.43
1961	146.6	31.2	177.8	9.75	0.47	163.9	8.98	0.47
1962†	152.2	28.6	180.8	9.74	0.45	—	—	—
1963‡	176.9	36.1	213.0	11.22	—	—	—	—

*Expenditures for repair and replacement are included in hospital expenditures.
†Preliminary.
‡Estimated.
SOURCE: Madden, J. J., *Economics of Health*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

TABLE 11-6 TOTAL EXPENDITURES ON ALL HEALTH SERVICES AND HOSPITAL CAPITAL, CANADA, 1947-1961

Year	Personal* Health Services	General and Public Health Services	Total Health Expenditures	Percentage of GNE	Capital Expenditures on Hospitals	Total Expenditures	Total Per Capita Expenditures	Percentage of GNE
	$ '000,000				$ '000,000		$	
1947	394.6	21.0	415.6	3.16	33.1	448.7	35.75	3.41
1948	442.4	30.0	472.4	3.12	55.6	528.0	41.18	3.49
1949	499.5	34.0	533.5	3.26	71.4	604.9	44.98	3.70
1950	565.1	38.0	603.1	3.35	73.0	676.1	49.31	3.75
1951	639.9	46.0	685.9	3.24	78.9	764.8	54.59	3.61
1952	698.6	51.0	749.6	3.12	93.3	842.9	58.30	3.51
1953	767.0	58.0	825.0	3.30	118.3	943.3	63.54	3.77
1954	839.6	62.0	901.6	3.63	121.5	1,023.1	66.93	4.11
1955	909.4	69.0	978.4	3.61	146.1	1,124.5	71.63	4.14
1956	1,028.3	73.0	1,101.3	3.60	128.7	1,230.0	76.48	4.02
1957	1,142.6	79.0	1,221.6	3.83	130.6	1,352.2	81.41	4.24
1958	1,259.4	87.0	1,346.4	4.09	161.6	1,508.0	88.29	4.58
1959	1,419.6	93.0	1,512.6	4.33	151.9	1,664.5	95.21	4.77
1960	1,571.7	101.0	1,672.7	4.61	156.0	1,828.7	102.33	5.04
1961	1,723.9	105.0	1,828.9	4.89	177.8	2,006.7	110.01	5.36

*Includes prescribed drugs.

SOURCE: Tables 9-1, 9-4 and 9-5.

The demand for health services, however, depends on the existence of certain basic elements; on an awareness of need, on the belief that health services will satisfy this need plus the ability to turn need into demand by purchasing health care. We have already referred to the increase in life expectancy, the growing conviction that disease and disability need not produce as its consequence the loss of a child or parent before the biblical span of life is achieved, or the permanent disability of even the older members of the community. Increased urbanization, better transportation, more education per person, the spread of knowledge, have made people aware of the benefits to be derived from medical and hospital care or drugs, while the scientific and technical advances that have provided families with television, jet transport and a host of other goods and services that did not exist before the war, continues to create new drugs; new surgical techniques; diagnostic, therapeutic and rehabilitation techniques that offer the consumer an alter-

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TABLE 11-7 ESTIMATED TOTAL EXPENDITURES ON PERSONAL HEALTH SERVICES, HOSPITAL CAPITAL, RESEARCH AND EDUCATION, CANADA, 1961

Year	Operating Costs Health Services		Operating Costs Hospital Services		Total Operating Cost		Public Health Services		Capital Expenditures		Research Expenditures*		Grants-in-Aid of Education†	
	Total Cost	Per Capita Cost	Total Cost	Per Capita Cost	Total Cost	Per Capita Cost	Total Cost	Per Capita Cost	Total Cost	Per Capita Cost	Total Cost	Per Capita Cost	Total Cost	Per Capita Cost
	$ '000,000	$	$ '000,000	$	$ '000,000	$	$ '000,000	$	$ '000,000	$	$ '000,000	$	$ '000,000	$
1961	800.1	43.87	923.8	50.65	1,723.9	94.52	105.0	5.76	177.8	9.75	12.0	0.66	3.7	0.20

Year	All Health Expenditures Excluding Non-Prescribed Drugs			Estimated Expenditures on Non-Prescribed Drugs and Pharmaceuticals	All Health Expenditures Including Non-Prescribed Drugs		
	Total Cost	Per Capita Cost	Percentage of GNE		Total	Per Capita	Percentage of GNE
	$'000,000	$		$'000,000	$'000,000	$	
1961	2,018.7	110.69	5.39	210.0	2,228.7	122.20	5.96

*May include some research expenditures already included under Public Health Services.

†Grants-in-Aid of Health Education have been included with expenditures on Public Health Services. They are not included in the totals.

SOURCE: Madden, J. J., *Economics of Health*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964 and Table 11-6.

native to the pain and catastrophic consequences of actual or probable illness. The gradual displacement of home production by market production that we see in the development of processed foods and packaged entertainment has its counterpart in the health industry where birth, death and the treatment of mental or physical illness have been shifted from home to the hospital with consequent increase in the need for hospital services—while the home remedy is displaced by the physicians' prescription available at the near-by pharmacy.

This does not mean that the need for health services is unlimited. Medical care generally is not wanted for its own sake; most health services are not particularly pleasant; and even when they are prepaid they may involve additional costs to the consumer in terms of foregone income or leisure. Budget studies reveal that at low levels of living standards, expenditures on health care increase at about the same rate as income so that they represent about the same percentage of total spending at each income level. With the higher level of living standards attained in recent years a decreasing proportion of family income goes for health care as incomes rise. Thus in 1959, urban families with incomes under $3,000 spent about 5.5 per cent of their income on health services, at each income level above this the percentage spent on health tended to decline, and for families with incomes over $10,000 amounted only to 3.4 per cent. On the other hand, in a community where a large proportion of the population do not obtain, as yet, the quantity and variety of health services received by those with higher incomes, but who recognize the need for health care and aspire to the consumption patterns of the well-to-do; there exists a great and unsatisfied need for health services. The transformation of this need into a corresponding level of demand for health services will depend essentially on the ability of individuals and families to purchase health care. This will depend, in turn, on the growth of their incomes, their asset holdings, the availability of professional manpower and specialized capital equipment which influence the prices of health services, and their desire to obtain all the other goods and services which make up the standard of living in North America. The influence of the availability and manpower on health services we will discuss later in this chapter; here we wish to examine what can be called the demand for health services.

DEMAND FOR HEALTH SERVICES

We have already examined the growth of personal income in Canada.[1] With rising personal incomes, broadly distributed among income groups, it is not surprising that total expenditures on health services have expanded

[1] See Chapter 4.

significantly. There is another factor which materially influences personal spending on any one category of consumption. If the pattern of tastes change as income increases, it may be that the proportion of total income devoted to certain kinds of goods may decline thus permitting the proportion of income devoted to some other commodity to increase. Increasing incomes are therefore not only associated with increasing absolute expenditures on some commodities but also with increasing proportionate expenditures. Such trends in consumer spending have come to be called "Engel's Law", after a Belgian statistician Ernst Engel who was one of the first to identify this behaviour. The best-known Engel-type law is the proposition that as income increases, the proportion devoted to expenditure on food will decline leaving a larger proportion to be spent on other things such as services. The validation of these relations over a long period of time still awaits a test based on adequate data. However, over the period which we have reviewed, the consumption of many basic foods and articles of clothing has not risen as rapidly as incomes. Hence additional disposable income became available that could be allocated to health care without reducing the level of living in terms of other basic necessities of life.

Table 11-8 and Chart B indicate the relative importance of expenditures on health care in the pattern of consumer spending over the past three decades. It is evident, despite the substantial increase in expenditures, and increased importance of health in the average consumer's budget that food, clothing, transportation, shelter, and even tobacco and alcohol, have always commanded a greater share of the consumer dollar. In the late nineteen twenties, when expenditures on personal health services amounted to $185 million, expenditures on food amounted to $1,131 million, and tobacco and alcohol to $226 million. By the late nineteen fifties, when expenditures on personal health services had risen to $1,465 million, expenditures on food amounted to $5,654 million and tobacco and alcohol to $1,598 million. Indeed considering that total personal expenditures rose from $4,287 million in the pre-depression period to $23,641 million at the beginning of the nineteen sixties, the pattern of consumer spending has displayed a remarkable stability. Except for expenditures on clothing and personal furnishings which fell by 4.5 percentage points no other component varied by more than 2.7 percentage points from the 1927-1929 figure. Expenditures on personal health services have risen, it is true, by 1.9 percentage points. But other components of personal spending also have risen. In the case of transportation which rose by 2.7 percentage points reflecting the increasing ownership of motorcars by Canadians, the rate of expansion was greater than for health services.

The pattern of spending indicated by Table 11-8 is also evident if we examine the budgets of Canadian households over the period 1937-39 to 1959. Because expenditure surveys have been concentrated mainly on

TABLE 11-8 AVERAGE PERSONAL EXPENDITURE ON CONSUMER GOODS AND SERVICES AND PERCENTAGE DISTRIBUTION OF TOTAL PERSONAL EXPENDITURES, CANADA, SELECTED PERIODS, 1927-1961

Item	1927-29		1937-39		1947-49	
	Average Expenditures	Percentage of Total Expenditures	Average Expenditures	Percentage of Total Expenditures	Average Expenditures	Percentage of Total Expenditures
	$ '000,000		$ '000,000		$ '000,000	
Food	1,131	26.4	966	24.5	2,717	26.9
Tobacco and Alcohol	226	5.3	215	5.5	830	8.2
Clothing and Personal Furnishings	619	14.4	474	12.0	1,410	14.0
Shelter	592	13.8	566	14.4	1,076	10.7
Household Operations	597	13.9	580	14.7	1,323	13.1
Transportation	390	9.1	369	9.4	943	9.3
Personal Health Services*	185	4.3	174	4.4	414	4.1
Drugs, Pharmaceuticals and Other Personal Services	97	2.3	104	2.6	270	2.7
Miscellaneous	450	10.5	493	12.5	1,115	11.0
TOTAL†	4,287	100.0	3,941	100.0	10,098	100.0
	1952-54		1957-59		1959-61	
Food	3,906	25.0	5,217	24.4	5,654	23.9
Tobacco and Alcohol	1,099	7.0	1,454	6.8	1,598	6.8
Clothing and Personal Furnishings	1,824	11.7	2,179	10.2	2,344	9.9
Shelter	1,980	12.7	3,165	14.8	3,630	15.4
Household Operations	1,993	12.8	2,723	12.7	2,940	12.4
Transportation	1,725	11.1	2,527	11.8	2,792	11.8
Personal Health Services*	720	4.6	1,182	5.5	1,465	6.2
Drugs, Pharmaceuticals and Other Personal Services	380	2.4	527	2.5	567	2.4
Miscellaneous	1,976	12.7	2,428	11.3	2,651	11.2
TOTAL†	15,603	100.0	21,402	100.0	23,641	100.0

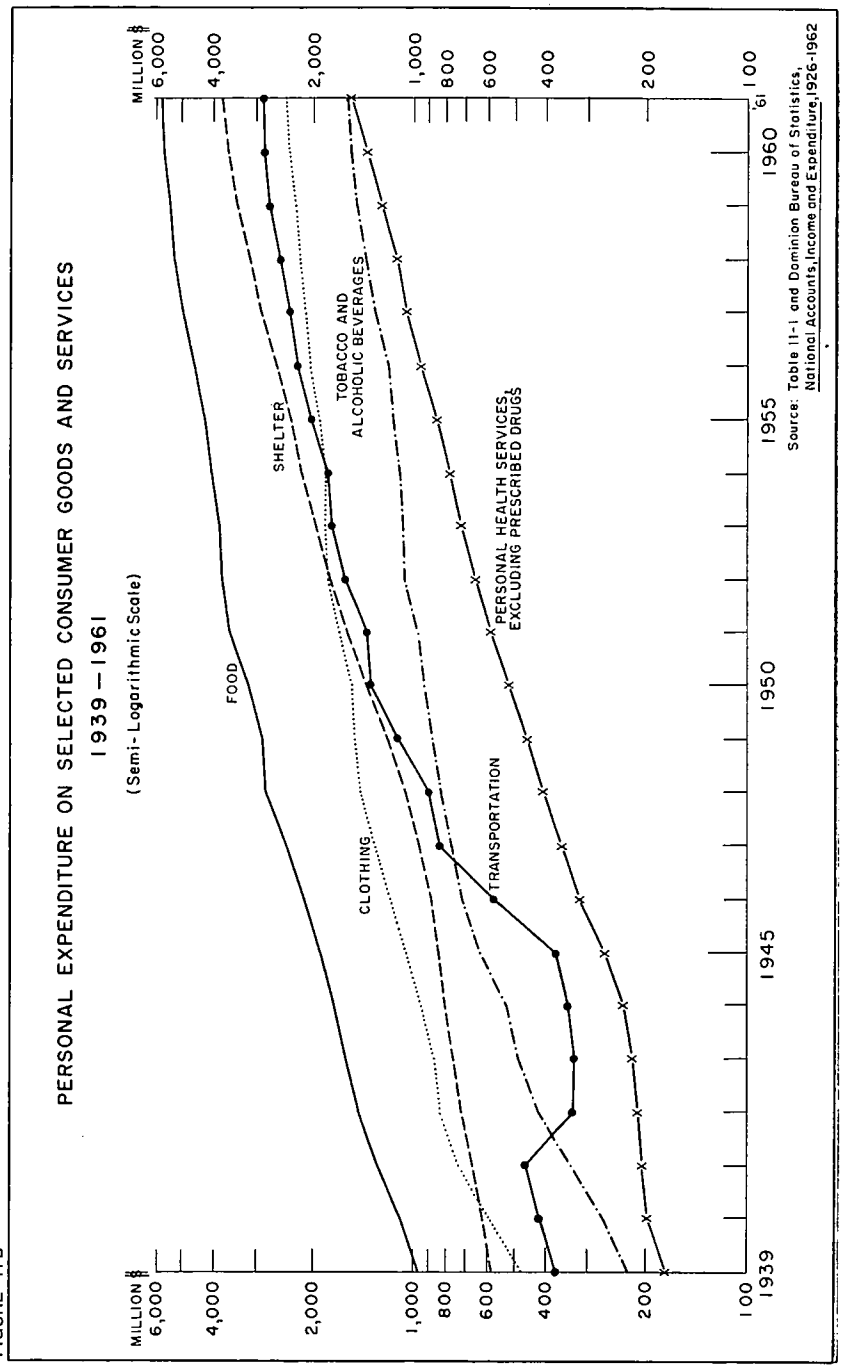
*Includes expenditures for medical, dental, hospital, other nursing, health insurance administration, chiropractic, osteopath and optometrist services.

†Adjusted by including expenditures for hospital care provided in federal and provincial government hospitals and cost of administering public hospital care programmes.

SOURCE: Madden, J. J., *Economics of Health,* a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

two- or more-person families, living in urban areas, and since very low income families and high income families have generally been excluded, the data do not tell the full story covering the spending patterns for all income classes and for rural inhabitants. For the families for which we have roughly

FIGURE-11B


PERSONAL EXPENDITURE ON SELECTED CONSUMER GOODS AND SERVICES
1939 – 1961
(Semi-Logarithmic Scale)
MILLION $
6,000
4,000
2,000
1,000
800
600
400
200
100
1939
1945
1950
1955
1960
'61
FOOD
SHELTER
TOBACCO AND ALCOHOLIC BEVERAGES
CLOTHING
TRANSPORTATION
PERSONAL HEALTH SERVICES, EXCLUDING PRESCRIBED DRUGS
Source: Table 11-1 and Dominion Bureau of Statistics, National Accounts, Income and Expenditure, 1926-1962

comparable data over time, average expenditures on health services rose from $63 in 1937-38 to $221 in 1959. As a percentage of total expenditures, the amount spent in both periods was approximately the same, 4.6 per cent, while in 1947-48 the percentage spent on health services fell to 3.9 per cent.[1]

Health and Other Consumer Expenditures

Although we recognize that the growth of spending on health services has been accompanied by increased spending on other goods and services, we are aware that expenditures on health services have grown more rapidly and that this rapid rate of growth has continued until the present day when there has been a general tendency among other classes of spending to slow down. It is important to recognize, in this context, that there have been periods when health expenditures have lagged behind other types of spending, that other categories of spending—particularly personal expenditures on services generally—have also increased significantly, and that the rapid growth of spending on personal health services has become somewhat unique only in the past five or six years when the rate of growth of the output of the Canadian economy and spending generally has tended to slow down.[2]

These developments can be seen from an examination of Tables 11-9 and 11-17 which describe the trend rate of growth in total health spending and expenditures on individual health items—the annual average percentage increase in spending for a number of sub-periods. Over the period 1926 to 1961, while personal health expenditures grew somewhat more rapidly than either Gross National Expenditure or total personal expenditures (6.7 compared to 5.8 and 5.7 per cent) the trend rate of growth was considerably lower in the period 1926 to 1944 and has reached a high level only in the post-war period. Thus between 1926 and 1944, GNE grew at a trend rate of 4.7 per cent while spending on personal health services grew at a trend rate of 2 per cent. In the post-war period the reverse has been the case

[1] See Dominion Bureau of Statistics, *Consumer Expenditure Surveys, 1937-38, 1947-48 and 1959*, Ottawa: Queen's Printer. These figures are not directly comparable with the data previously presented since they exclude expenditures on personal health services financed by governments from sales and other taxes (but not hospital premiums) and include expenditures for non-prescribed drugs. In 1959, the elimination of expenditures on non-prescribed drugs would have the effect of reducing the percentage spent on health care to around 4.4 per cent while the reduction would probably have been considerably greater for 1937-39. Since the 1937-39 survey excluded all those not self-supporting and since few self-supporting families received health services without paying directly for them, the expenditures approximate to consumption of health services. In 1959, when some provinces made health services available at little or no direct cost to the consumer, and where premiums did not approximate the full cost of the programme, the consumer expenditure survey under-estimated the amount spent on health since some health expenditures appear as a sales tax or a tax on incomes. In consequence, the 1959 consumer expenditure survey under-estimates the proportion paid for health services compared to the 1937-39 survey.

[2] We are referring to the period 1957 to 1961 during which the growth of the Canadian economy slowed down somewhat but which was followed by a significant rate of increase in economic expansion in 1962 and 1963 comparing favourably with the pre-1957 rate of growth.

with GNE increasing at a trend rate of 7.4 per cent and spending on personal health services at a rate of 11.8 per cent a year. The same is true for individual health items; all except hospital expenditures grew but little in the pre-war period and all grew much more rapidly in the post-war period.

TABLE 11-9 AVERAGE ANNUAL PERCENTAGE CHANGE IN EXPENDITURES ON PERSONAL HEALTH SERVICES, CANADA, SELECTED PERIODS, 1926-1961*

Period	Physicians' Services	Dentists' Services	Hospital Services	Other Health Services	Administrative Costs of Health Insurance	All Services	Prescribed Drugs
1926-29	6.3	6.1	3.1	5.8	3.1	5.1	—
1930-34	−17.9	−17.8	1.4	−14.9	−7.8	−9.2	—
1935-39	6.8	7.4	3.9	0.0	10.0	4.8	—
1940-44	1.3	7.6	6.4	0.0	14.9	4.6	—
1945-49	11.3	9.9	17.7	10.7	20.9	14.7	10.7
1950-54	8.7	9.3	12.2	6.0	11.6	10.6	8.3
1955-59	12.1	9.9	11.2	14.8	18.9	11.6	14.0
1957-61	9.2	8.0	12.0	13.2	12.4	11.1	7.2
1926-44	0.1	1.5	4.5	− 0.9	5.0	2.0	—
1945-61	10.6	9.0	13.0	10.0	13.4	11.8	10.2
1926-61	5.2	5.3	8.5	4.2	9.4	6.7	—

*Except where specifically stated all average annual rates of increase in this chapter have been calculated by the compound interest formula applied to the terminal points.

SOURCE: Based on Table 11-1.

That the trend rate of growth of spending on health services has been dissimilar to food, clothing and other non-durable goods, but similar to most services can be seen from Tables 11-8 and 11-10. Thus spending on food grew more rapidly in the period before 1950 than it did in the decade of the nineteen fifties as did clothing and personal furnishings; but transportation expenditures grew most rapidly in the post-war period as did expenditures for shelter. A pattern of spending emerges which indicates that in the pre-war and war periods, expenditures on non-durable goods such as clothing and personal furnishings grew much more rapidly than expenditures on durable goods such as automobiles, household appliances, radio and tele-

vision sets or on services such as health, education, recreation, entertainment and travel, while the reverse has been true in the post-war period. In the years 1926 to 1944 spending on non-durable goods grew at a trend rate of 4 per cent, expenditures on services generally at 2.3 per cent, personal health services at 2 per cent and durables at only 0.8 per cent. In the post-war period, expenditures on durables grew the most rapidly at 13.6 per cent, followed by personal health services at 11.8 per cent, services in general at 9.2 per cent and non-durables at 6.8 per cent. Since 1957 expenditures on services have continued to grow more rapidly than either durable or non-durable goods, 6 per cent compared to 4 per cent.

The causes of the lag in spending on services generally are not our concern but it is important to recognize that in the depression period, when income fell off notably, available income had to be devoted to the bare necessities needed to maintain life in the Canadian climate; new homes, cars, refrigerators, stoves, travel, higher education and health services beyond the absolute minimum, remained as needs that could not be transformed into demand. Even family formation was postponed as jobs were hard to find and the number of children limited among established households when another child competed with a reasonable standard of living for the first or second child. In the war and immediate post-war periods, though employment and income increased, dislocations such as service life, rent controls, price controls, shortages of cars and durables, shortages of hospital beds in

TABLE 11-10 AVERAGE ANNUAL PERCENTAGE CHANGE IN PERSONAL EXPENDITURES ON SELECTED CATEGORIES OF EXPENDITURES, CANADA, SELECTED PERIODS, 1926-1962

Period	Personal Health Services	Durable Goods	Non-Durable Goods	Services
1926-29	5	15	12	5
1930-34	−9	−10	−6	−7
1935-39	5	7	4	5
1940-44	5	2	12	7
1945-49	15	30	12	10
1950-54	11	12	5	11
1955-59	12	5	6	9
1957-62	—	4	4	6
1926-44	2.0	0.8	4.0	2.3
1945-61	11.8	13.6	6.8	9.2
1926-61	6.7	7.0	5.4	4.3

SOURCE: Based on Table 11-9 and Dominion Bureau of Statistics, *National Accounts, Income and Expenditure,* 1926-1962, Ottawa: Queen's Printer.

some regions and professional manpower, led to restrictions on purchases of certain goods and services, while commodities in relatively abundant supply such as foodstuffs and clothing could be purchased with only slight difficulty.

Once basic needs were satisfied, and with income still increasing, Canadians were ready to shift their expenditures from food and clothing to homes, automobiles, stoves, refrigerators, washing machines and television as well as to foreign travel, education and health, and when the demand for durables became temporarily saturated, to buy even more services. This latter process was slowed down by a desire for more completely processed foods, to buy the improved cars, freezers, automatic washers, dryers, air-conditioning units and a host of other consumer durables that came on the market as a result of technological advances and consumer desire to benefit from the fruits of economic progress, but it continues to remain at a significantly high level.

The service component in the consumer budget thus has become more and more important in the past decade. Its increasingly greater relative role represents, however, primarily the re-establishment of a pattern that existed before the nineteen thirties and which was distorted by the depression and World War II. In 1926-29, the volume of services measured in 1957 dollars accounted for 36.2 per cent of the consumer dollar. In 1960-62, despite their rapid post-war growth, they accounted for only 36.7 per cent. The shift towards expenditures on services that has occurred in the post-war period to a substantial degree represents a "catching-up" as it were with the long-term relationship between expenditures on services and personal income. The relationship between services and other categories of spending that characterized the consumers' budget nearly thirty year ago has been re-established. It may well be that this trend will continue into the future since a wealthy society may decide to take an increasing proportion of its real income in services rather than commodities. This shift, however, is unlikely to be rapid, or substantial since the increased rate of family formation expected in the second half of the nineteen sixties, along with a propensity of families to improve their standard of housing and ownership of cars, will create a demand for consumer capital which could well grow at a more rapid rate than consumer demand for health and educational services for a period of time.

Factors Contributing to the Long-term Trends in Health Spending

Canada's historical record therefore suggests that consumer spending of all kinds rises with income, but that the trend rate of growth of spending on individual goods or services, or categories of goods and services, may vary in the short run since it depends on a great many more variables than

disposable income. Expenditures on durable goods are influenced by the stock and the age of assets and the readily available credit of consumers; while political crises, weather, advertising, the steady stream of product innovation and changes in the taxation and other fiscal policies of governments, affect not only spending on durables but all other items as well. Yet the historical record suggests that shifts in consumer spending have been remarkably small. Divergences from the long-term relationships have developed, but ultimately a movement back to the trend relationship has come about. In the realm of consumption this is to be expected since to a large extent we do not wish to consume only food or clothing or shelter or health services, but some mixture which satisfies our varied desires within the constraints set by our budgets. The products of each industry might well be considered as passing through three stages of demand: a "luxury" demand, a subsistence or culture need, and finally a demand that depends essentially on the growth of population and real per capita income.[1] This does not mean however, that the "normal" proportion of GNE that is devoted to food or to health is fixed or that consumers will always, in the long run, spend a given proportion of their disposable income on some specific category of consumption. What it does mean is that if the trend rate of growth of spending on some item grows more rapidly in the short run than the growth of income generally, that sooner or later this growth rate will taper off. This is true for health expenditures as it is for goods and services in general. Health services, generally, are not wanted for their own sake. There is a limit to the amount of physicians' care, dental care, hospital services and prescribed drugs that the average citizen will consume even if such services were completely free. Engel's law surely applies to health services just as much as it does to basic food.

Yet given that consumer spending has increased as personal disposable incomes have risen, and given that spending on services generally has risen more rapidly than other categories of consumer spending, there can be no doubt that expenditures on health services have risen more rapidly than would be warranted by a generalized "catching-up" theory, especially since recently they have increased particularly rapidly compared with certain other goods and services for which the consumers' appetite is not yet satiated. Here we must examine the forces that have significantly affected health expenditures, that is the taxation-subsidy policies of Canadian governments, and the widespread development of public and private health insurance programmes.

The general policy of Canadian governments, that excludes health services, though not prescribed drugs, from sales tax; along with the policy

[1] For further discussion, see Brown, T. M., *op. cit.*, Chapter 2.

of the Government of Canada that permits certain medical expenses to be deducted from taxable income; by themselves have tended to shift personal consumption towards health care and away from other goods and services that are taxed. Further, the development of private health insurance programmes, many of them subsidized by employers out of tax-free funds; along with the recent growth of public welfare programmes which provide free medical care, dental care, prescribed drugs and home nursing care for the indigent and low income groups, has enabled a growing number of Canadians to receive the health care they need without reference to their incomes or their savings. We have described the expansion of these programmes in more detail in Chapter 10 of this Report.

Income maintenance programmes such as old-age assistance, old-age security and family allowances, have provided additional income for those individuals and families who are likely to have higher health expenditures than those who do not receive such payments. Finally, and most significantly, the increasing provision of hospital care for the tuberculous and the mentally ill by the provinces, the introduction in 1957 of the National Hospital Insurance Programme and increasing out-patient diagnostic and treatment services by some provinces, has made it possible for nearly all Canadians to receive the hospital care they need, providing they can obtain physicians' services from their own resources or through other means.

Disposable income has been rising, but the transfer payments that have counted for a larger share of personal disposable income each year, have been provided not in the form of cash but in the form of health care. To the extent that this involves a subsidy from one group to another, the subsidy has taken the form of a direct provision of health services, while in other cases, individuals consume health services which they otherwise might not have done if left to their own devices. With incomes higher, and greater awareness of the benefits of health care, the demand for health services has remained at a high level up to the present. Subsidies made it possible for Canadians to obtain health services that otherwise they might not obtain for many years until the incomes of very low income groups had increased sufficiently to permit them to purchase them. In short they speed up that day when no one will be deprived of the health services they need through lack of resources.

If personal real income were to double over the next generation we can expect that most Canadians could purchase the health services they need provided the prices of such services do not rise considerably more rapidly than other prices. Subsidized health services have the effect of making the achievement of this situation possible that much sooner. The rising expenditures that accompany this demand are, in essence, the concentration of increased demand in a shorter period of time. They will ultimately turn down at some future date.

FURTHER DETERMINANTS OF SPENDING ON HEALTH SERVICES

Population, Volume, Quality and Price

We have examined the long-term trend in total health expenditures as well as the fluctuations in this long-term trend, and we have outlined the demand factors that have led to a substantial increase in spending in the post-war decade. Since we wish to project future spending on the basis of spending on specific health items, as well as total spending, it is useful to examine the trend rate of growth of spending on individual health items, and particularly to examine some further determinants of such spending; that is the effect of the supply of health personnel and capital on the prices of health services.

In this analysis it is convenient to attribute the growth of Canadian spending on health services to four major factors: changes in population, changes in the per capita purchases of health services reflecting the volume of health care consumed, changes in the quality of health services and changes in the price of such services. Given the state of our knowledge, the measurement of the contribution of each of these factors is a difficult task. Hence our estimates should only be considered as a reasonable quantitative approximation of the various factors involved.

Briefly, if we assume that the quality of service remains unchanged over time, then the amount spent on health will change directly with changes in total population, per capita consumption and prices. For example, if population grew at the rate of 2 per cent a year, per capita consumption at the rate of 2 per cent a year and prices on the average rose at 2 per cent a year, then total spending on health would rise by approximately 6.12 per cent a year; the result of multiplying an index of population change, by an index of quantity change, by an index of price change.[1] Conversely, if we know total expenditures, population growth and price change, we can calculate what has been the rate of growth of real per capita consumption. We can roughly estimate what has been the increase in the average volume of services received by every Canadian within some specific time period. To this end we have prepared estimates of the historical spending on health services on a per capita basis which eliminates the effect of population change and on a constant (1957) dollar basis which eliminates the effect of price change. Per capita constant (1957) dollar estimates of spending on health services then approximate the volume of health services actually received by the average Canadian in the period under review.

[1] For example, $102 \times 102 \times 102 = 106.12$.

The elimination of the effects of population growth on health expenditures presents no particular conceptual problem. The same cannot be said for the elimination of the effects of price change. In the process of measuring the volume of output our technique has been to divide current expenditures on health services by current prices and then to revalue this indirect estimate of volume in the prices that existed in 1957. Thus estimates of the volume of health services are called constant (1957) dollar estimates since the prices used in each year were those of 1957. Yet there is a good deal of difficulty in eliminating current price change because an increase or a decrease in price may indicate something other than pure price change. In other words, prices may change because output in some way has changed; because the quality of output is different from what it had been in an earlier period.[1]

In the field of health services significant changes in quality have occurred, particularly with respect to the type of hospital care received, physicians' services, and prescription drugs. For example, if the price of a physician's office call were to rise by 20 per cent, while for any specific illness the number of office calls needed fell by 50 per cent, our estimates would show that spending on physicians' services rose because the price of a service had risen while if the output priced was a cured illness, instead of an office call, the quality improvement would be such as to justify the claim that the price had actually declined. If through the use of better equipment, new materials and ancillary personnel, the provision of a denture for a patient takes much less time and gives greater satisfaction, even if the price of dentures or a dentist's office call rises, the rise in price may be more than offset by the improvement in quality. Similarly the price of a specific operation may have gone up because it now requires a team of highly skilled personnel and a large quantity of equipment, but if the patient now survives while 30 years ago the chances were that he would die, is it justifiable to claim that the price of the operation has risen or, that in real terms, it has fallen? The same, of course can be said about many drugs; they cost more and they cause the index of drug prices to rise, but they yield far superior results than the lower priced drugs they replace.

The measurement of the change in the price of hospital care also involves many difficulties. Over most of the period, price change has been

[1] For example, if 1,000 cars had been produced in 1950 and each car sold for $2,500 then the value of output would have been $2.5 million. In 1963 if the output of cars was still 1,000 but the price had risen to $3,000, total expenditures on cars would have risen to $3 million and it might be said that this increase in expenditure was due solely to price change. In actual fact we cannot say with certainty that the volume of output has remained constant and prices risen by 20 per cent, since the 1963 car may have more power, more style, more economy of operation, more durability and offer more consumer satisfaction generally. The quality of output has risen and more than compensated for the increase in the price. The 1963 buyer gets more car for his money than did the 1950 buyer and any measuring device that fails to take account of quality change can seriously overestimate the extent of pure price change and underestimate the true growth of output.

TABLE 11-11 IMPLICIT PRICE INDEXES SELECTED HEALTH EXPENDITURES AND OTHER ITEMS, CANADA, 1926-1961*

(1957 = 100.0)

Year	Physicians' Services	Dentists' Services	Hospital Services	All Services	Prescribed Drugs	Hospital Construction†	Personal Expenditures on Services	Government Expenditures on Goods and Services	Business Gross Fixed Capital Formation	Gross National Expenditure
1926	61.5	90.0	30.6	48.0	—	—	—	—	—	51.0
1927	61.0	89.0	31.0	48.5	—	—	—	—	—	50.5
1928	62.0	88.0	32.0	49.5	—	—	—	—	—	50.5
1929	62.0	89.0	32.5	50.0	—	—	—	—	—	51.5
1930	62.0	86.0	33.0	49.5	—	—	—	—	—	50.0
1931	61.5	75.0	32.5	47.5	—	—	—	—	—	47.0
1932	59.0	66.0	32.5	44.5	—	—	—	—	—	42.5
1933	58.0	57.0	32.0	42.0	—	—	—	—	—	42.0
1934	53.5	55.0	32.0	41.0	—	—	—	—	—	42.0
1935	59.0	55.5	32.0	41.5	—	—	—	—	—	42.5
1936	59.0	55.5	32.5	42.0	—	—	—	—	—	44.0
1937	59.0	58.5	32.5	42.5	—	—	—	—	—	45.5
1938	59.0	56.5	33.0	43.0	—	—	—	—	—	45.0
1939	58.5	57.5	33.5	43.5	—	—	—	—	—	43.0
1940	58.5	57.5	33.5	43.5	—	—	—	—	—	46.0
1941	59.5	59.0	33.0	43.5	—	—	—	—	—	50.5
1942	60.0	60.0	34.5	43.5	—	—	—	—	—	52.5
1943	60.5	60.5	36.0	46.0	—	—	—	—	—	54.5
1944	62.5	61.5	38.0	47.0	—	—	—	—	—	56.0
1945	63.5	62.5	40.5	49.5	73.5	50.0	56.0	53.9	50.6	57.5
1946	64.5	65.0	43.5	52.0	73.5	51.0	—	—	—	59.0
1947	67.0	65.5	51.0	57.5	77.5	58.5	—	—	—	64.0
1948	73.0	68.0	56.0	62.5	85.5	65.0	—	—	—	73.0
1949	76.5	71.0	61.0	65.5	87.5	69.0	—	—	—	75.5
1950	77.5	74.5	65.5	70.5	88.5	72.5	—	—	—	78.8
1951	82.5	79.0	73.0	72.0	93.5	81.5	—	—	—	84.0
1952	87.0	84.0	76.0	80.0	94.0	88.0	—	—	—	90.5
1953	90.0	87.0	83.0	84.5	95.0	89.5	—	—	—	91.0
1954	92.0	89.0	86.5	89.0	95.5	91.5	—	—	—	93.0
1955	93.5	92.5	90.5	91.5	97.0	92.0	92.5	90.1	91.7	93.5

TABLE 11-11 IMPLICIT PRICE INDEXES SELECTED HEALTH EXPENDITURES AND OTHER ITEMS, CANADA, 1926-1961* *(Concluded)*

(1957 = 100.0)

Year	Physicians' Services	Dentists' Services	Hospital Services	All Services	Prescribed Drugs	Hospital Construction†	Personal Expenditures on Services	Government Expenditures on Goods and Services	Business Gross Fixed Capital Formation	Gross National Expenditure
1956	96.0	94.0	93.0	95.0	97.5	97.0	94.5	95.1	96.6	97.0
1957	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1958	106.0	104.5	103.5	104.0	103.5	102.0	103.5	101.1	102.0	102.0
1959	108.0	108.0	107.0	106.0	108.0	105.0	106.5	104.6	105.1	104.0
1960	109.0	113.0	109.0	109.0	111.5	107.5	108.5	108.0	107.4	106.0
1961	111.0	114.5	111.0	110.0	106.6	108.0	112.0	110.1	108.4	106.3

*Implicit price index used to deflate expenditures in "other services" was index of prices of physicians' services. Index used to deflate administrative costs of health insurance was the index of GNE. Implicit price indexes have been rounded to the nearest half percentage point except for Government Expenditures on Goods and Services and Business Capital Formation.

†Deflated by using the implicit price index for Business Gross Fixed Capital Formation.

SOURCE: Madden, J. J., *Economics of Health*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964, Dominion Bureau of Statistics, *National Accounts, Income and Expenditure*, 1926-1961, and supplementary data.

eliminated in our estimates by measuring the changes in price of a day of hospital care although for the period from 1955 the deflation has been carried out by holding the prices of labour, materials and other inputs constant at 1957 levels. But both of these techniques eliminate any possible increase in productivity, of increased output from the same amounts of resources. A rise in the price of a day of hospital care may be the consequence of a greater concentration of diagnostic and therapeutic procedures in the first few days of care combined with a significant decline in the number of days of care required for a given illness. Yet this improvement in quality, in real output, would not be fully reflected in the type of measurement available to us and consequently the increase in the price of hospital care would tend to be overstated. On the other hand, if one now has to queue for a hospital bed where formerly these were available immediately on payment of a per diem rate it could be argued that the quality of hospital care has deteriorated and the real price of a day of hospital care has risen substantially more than that indicated by the price index.

Price indexes themselves, which are used to convert total expenditures into a measure of the volume of output or consumption, are not free from error. The prices upon which they are based may not be completely representative of all the health services purchased and they may not reflect fully the prices of all transactions that relate to the specific services priced. In short, we cannot emphasize too strongly that until the problem of measuring quality change of health care can be dealt with more effectively and until a larger number of health services and commodities are priced, that all estimates of the trends in price and volume of health services and commodities presented in our study must be considered what they are: a first approximation of trends. For our purposes, the estimates are adequate to illustrate the changing elements in the health care efforts of Canadians.

Population Increases and Health Spending

It is to be expected that health expenditures will increase as population increases since more children are born, more people fall ill, more people die, all of which require health services in our society. Since the Canadian population nearly doubled between 1926 and 1961, rising from 9.5 million to 18.2 million, it might be expected that expenditures on health services, assuming everything else remained constant, would also double. In addition, however, as the life span of Canadians has been extended, the proportion of the elderly in the population has risen from 4.8 per cent in the early nineteen twenties to 7.8 per cent of the population in 1961. This increase in the proportion of elderly now is slowing down, but the effect has been to increase that part of the population which is more prone to serious illness and thus to need more health services. We have already referred to the rise in the incidence of certain diseases that have been associated with the aging of our population and we have provided estimates of the costs of some of these diseases for the year 1961.[1] It has not been possible to estimate the impact of the aging structure of the population on total health expenditures but it is believed, in view of the magnitude of the percentage increase, that it has not been very substantial. There has also been a shift in the structure of the population in recent years to the very young who are also relatively heavy users of health services, but again the impact of this change on health services is not known.

The impact of total population increase on spending on health care can be seen in Table 11-15. Over the thirty-five year period 1926-1961, when expenditures on personal health services grew at a trend rate of 6.7 per cent,

[1] See also Chapter 5.

TABLE 11-12 EXPENDITURES ON PERSONAL HEALTH SERVICES IN CONSTANT (1957) DOLLARS, BY TYPE OF EXPENDITURE AND PERCENTAGE OF GROSS NATIONAL EXPENDITURE (GNE) AND TOTAL PERSONAL EXPENDITURES SPENT ON PERSONAL HEALTH SERVICES, CANADA, 1926-1961

Year	Physicians' Services	Dentists' Services	Hospital Services	Other Health Services	Admin. Costs of Health Insurance	All Services	Percentage of Total Personal Expenditure	Percentage of GNE	Prescribed Drugs	Total Expenditures	Percentage of Total Personal Expenditure	Percentage of GNE
	$'000,000								$'000,000			
1926	104.9	21.6	169.7	44.1	6.1	346.4	5.1	3.45	—	—	—	—
1927	113.0	23.3	174.6	44.1	6.7	361.7	4.8	3.30	—	—	—	—
1928	119.4	25.4	174.6	49.8	6.9	376.1	4.5	3.14	—	—	—	—
1929	124.9	26.2	174.9	51.5	6.6	384.1	4.4	3.20	—	—	—	—
1930	114.6	24.9	177.0	44.9	7.0	368.4	4.4	3.32	—	—	—	—
1931	103.5	25.4	178.0	42.5	6.2	355.6	4.5	3.55	—	—	—	—
1932	77.7	20.8	170.0	32.3	5.4	306.2	4.2	3.40	—	—	—	—
1933	65.2	19.8	173.3	29.3	5.7	293.3	3.9	3.48	—	—	—	—
1934	63.5	20.1	193.1	27.6	6.2	310.5	4.1	3.29	—	—	—	—
1935	74.1	23.6	214.5	32.3	6.6	351.1	4.5	3.45	—	—	—	—
1936	75.2	24.0	232.2	34.0	7.3	372.7	4.5	3.51	—	—	—	—
1937	84.6	26.7	233.2	35.7	7.9	388.1	4.4	3.32	—	—	—	—
1938	93.0	29.4	247.1	35.7	8.7	413.9	4.8	3.51	—	—	—	—
1939	97.2	30.5	236.9	32.3	9.1	406.0	4.6	3.22	—	—	—	—
1940	107.0	33.0	267.9	39.1	9.3	456.3	4.8	3.16	—	—	—	—
1941	111.3	37.0	262.2	40.1	9.7	460.3	4.5	2.78	—	—	—	—
1942	114.3	35.2	269.1	39.8	10.5	468.9	4.5	2.39	—	—	—	—
1943	113.1	38.1	282.0	36.4	9.9	479.5	4.5	2.36	—	—	—	—
1944	105.5	41.3	305.1	36.7	13.4	502.0	4.4	2.38	—	—	—	—
1945	120.2	47.4	319.6	39.2	16.5	542.9	4.3	2.64	31.6	574.5	4.5	2.79
1946	134.1	56.8	347.5	43.9	21.4	603.7	4.3	2.99	36.5	640.2	4.6	3.17
1947	135.3	59.2	367.4	50.7	23.5	636.1	4.5	3.11	37.3	673.4	4.7	3.29
1948	139.2	58.8	384.0	49.4	24.7	656.1	4.7	3.15	37.8	693.9	5.0	3.33
1949	152.8	59.6	403.5	49.0	26.9	691.8	4.7	3.20	39.6	731.4	5.0	3.38
1950	174.5	62.5	431.2	51.0	29.5	748.7	4.8	3.24	42.6	791.3	5.1	3.42
1951	185.9	64.3	447.4	50.4	29.1	777.1	4.9	3.17	45.7	822.8	5.2	3.35
1952	193.1	66.8	471.3	49.4	31.9	812.5	4.8	3.06	49.0	861.5	5.1	3.25
1953	196.0	69.6	487.0	50.0	35.3	837.9	4.8	3.04	51.4	889.3	5.0	3.23
1954	204.4	74.5	517.0	54.2	38.4	888.5	4.9	3.33	54.5	943.0	5.2	3.53
1955	221.2	74.1	531.0	58.9	42.6	927.8	5.0	3.19	61.4	989.2	5.3	3.41
1956	250.7	87.0	560.7	67.9	41.3	1,007.6	5.1	3.20	73.5	1,081.1	5.5	3.43
1957	269.2	87.3	586.7	70.0	44.9	1,058.1	5.2	3.31	84.5	1,142.6	5.7	3.58
1958	279.8	93.7	617.6	80.5	49.4	1,121.0	5.4	3.47	87.4	1,208.4	5.8	3.74
1959	302.0	92.5	688.6	87.8	60.4	1,231.3	5.6	3.69	93.0	1,324.3	6.1	3.97
1960	324.0	100.3	757.2	96.0	62.1	1,339.6	6.0	3.92	96.4	1,436.0	6.4	4.21
1961	344.1	103.7	836.0	103.3	67.1	1,454.2	6.3	4.15	104.5	1,558.7	6.7	4.45

SOURCE: Madden, J. J., *Economics of Health*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

TABLE 11-13 PER CAPITA EXPENDITURES ON PERSONAL HEALTH SERVICES IN CONSTANT AND PERCENTAGE OF GNE (1957) DOLLARS, BY TYPE OF EXPENDITURES, CANADA, 1926-1961

Year	Physicians' Services	Dentists' Services	Hospital Services	Other Health Services	Admin. Cost of Health Insurance	All Services	Percentage of Per Capita GNE	Prescribed Drugs	Total Expenditures	Percentage of Per Capita GNE
	$							$		
1926	11.10	2.29	17.95	4.67	0.65	36.65	3.45	—	—	—
1927	11.73	2.42	18.12	4.58	0.70	37.55	3.30	—	—	—
1928	12.14	2.58	17.74	5.06	0.70	38.21	3.14	—	—	—
1929	12.45	2.61	17.44	5.14	0.66	38.30	3.20	—	—	—
1930	11.23	2.44	17.34	4.40	0.69	36.09	3.32	—	—	—
1931	9.97	2.45	17.15	4.10	0.60	34.27	3.55	—	—	—
1932	7.39	1.98	16.17	3.07	0.51	29.13	3.40	—	—	—
1933	6.13	1.86	16.30	2.76	0.54	27.58	3.48	—	—	—
1934	5.91	1.87	17.98	2.57	0.58	28.91	3.29	—	—	—
1935	6.83	2.18	19.78	2.98	0.61	32.37	3.45	—	—	—
1936	6.87	2.19	21.21	3.11	0.67	34.05	3.51	—	—	—
1937	7.66	2.42	21.11	3.23	0.72	35.14	3.32	—	—	—
1938	8.34	2.64	22.16	3.20	0.78	37.11	3.51	—	—	—
1939	8.63	2.71	21.02	2.87	0.81	36.03	3.22	—	—	—
1940	9.40	2.90	23.54	3.44	0.82	40.10	3.16	—	—	—
1941	9.67	3.22	22.79	3.48	0.84	40.00	2.78	—	—	—
1942	9.81	3.02	23.09	3.42	0.90	40.24	2.39	—	—	—
1943	9.59	3.23	23.91	3.09	0.85	40.65	2.36	—	—	—
1944	8.83	3.46	25.54	3.07	1.12	42.02	2.38	—	—	—
1945	9.96	3.93	26.47	3.25	1.37	44.97	2.64	2.62	47.57	2.79
1946	10.91	4.62	28.27	3.57	1.74	49.11	2.99	2.97	52.08	3.17
1947	10.78	4.71	29.27	4.04	1.87	50.68	3.11	2.97	53.65	3.29
1948	10.86	4.59	29.94	3.85	1.93	51.16	3.15	2.93	54.09	3.33
1949	11.36	4.43	30.01	3.64	2.00	51.45	3.20	2.94	54.39	3.38
1950	12.73	4.56	31.45	3.72	2.15	54.59	3.24	3.11	57.70	3.42
1951	13.27	4.59	31.94	3.60	2.08	55.47	3.17	3.26	58.73	3.35
1952	13.36	4.62	32.59	3.42	2.21	56.19	3.06	3.39	59.58	3.25
1953	13.20	4.69	32.80	3.37	2.38	56.44	3.04	3.46	59.90	3.23
1954	13.37	4.87	33.82	3.54	2.51	58.11	3.33	3.56	61.67	3.53
1955	14.09	4.72	33.83	3.75	2.71	59.10	3.19	3.91	63.01	3.41
1956	15.59	5.41	34.87	4.22	2.57	62.66	3.20	4.57	67.23	3.43
1957	16.21	5.26	35.32	4.21	2.70	63.70	3.31	5.09	68.79	3.58
1958	16.38	5.49	36.16	4.71	2.89	65.63	3.47	5.12	70.75	3.74
1959	17.27	5.29	39.39	5.02	3.45	70.42	3.69	5.32	75.74	3.97
1960	18.13	5.61	42.37	5.37	3.48	74.96	3.92	5.40	80.36	4.21
1961	18.87	5.69	45.84	5.66	3.68	79.74	4.15	5.72	85.46	4.45

SOURCE: Table 11-12.

TABLE 11-14 TOTAL EXPENDITURES ON ALL HEALTH SERVICES AND HOSPITAL CAPITAL IN CONSTANT (1957) DOLLARS, CANADA, 1947-1961

Year	Personal Health Services*	General and Public Health Services	Total Health Expenditures	Percentage of GNE	Capital Expenditures on Hospitals	All Expenditures		Percentage of GNE
						Total Expenditures	Per Capita Expenditures	
	$'000,000	$'000,000	$'000,000		$'000,000	$'000,000	$	
1947	673.4	38.0	711.4	3.48	56.7	768.0	61.19	3.76
1948	693.9	49.0	742.9	3.57	85.4	828.3	64.59	3.98
1949	731.4	52.0	783.4	3.62	103.4	886.8	65.95	4.10
1950	791.3	55.0	846.3	3.66	100.8	947.1	69.07	4.10
1951	822.8	59.0	881.8	3.59	97.1	978.7	69.86	3.99
1952	861.5	64.0	925.5	3.49	106.1	1,031.6	71.34	3.89
1953	889.3	70.0	959.3	3.49	131.9	1,091.2	73.51	3.96
1954	943.0	71.0	1,014.0	3.80	133.0	1,147.0	75.03	4.29
1955	989.2	77.0	1,066.2	3.67	158.1	1,224.3	77.99	4.22
1956	1,081.1	79.0	1,160.1	3.68	132.7	1,292.8	80.39	4.10
1957	1,142.6	79.0	1,221.6	3.83	130.6	1,352.2	81.41	4.24
1958	1,208.4	84.0	1,292.4	4.00	158.0	1,450.4	84.92	4.49
1959	1,324.6	86.0	1,410.6	4.22	144.4	1,555.0	88.94	4.66
1960	1,436.1	90.0	1,526.1	4.47	145.2	1,671.3	93.53	4.89
1961	1,558.7	91.0	1,649.7	4.71	163.9	1,813.6	99.44	5.18

*Includes prescribed drugs.

SOURCE: Tables 11-4, 11-5 and 11-12.

population growth accounted for 1.9 percentage points—approximately 30 per cent of total growth. This, of course, is a sizeable contribution but its effect was most significant in the period before 1945 rather than in the post-war period. Thus in the years 1926-1944, when the trend rate of growth of total spending was 2 per cent a year, 1.3 percentage points (almost two-thirds of total growth) was attributable to population change. In the years 1945-1961, although population increase now accounted for 2.6 percentage points, it only accounted for about one-quarter of the total growth rate of 11.8 per cent.

Health Expenditures Per Person

Per capita expenditures on personal health services have increased rapidly over the whole period 1926 to 1961 both because average consumption has increased and because the prices of individual health services have risen. As noted in Table 11-2, over these thirty-five years the value of personal health services received by each Canadian rose fivefold from $17.59 to $88.41, while, if prescribed drugs are included, the sum amounted to $94.52 in the latter year.

The propensity of individual Canadians to use increasing amounts of hospital care, physicians' and dentists' services, prescribed drugs and other health items each year has led to the growth of average per capita consumption of health services accounting for approximately the same proportion of the growth rate in the pre-war and post-war period (between 35 and 40 per cent). There has been, however, a striking increase in the consumption of health services after the war since, as shown in Table 11-17, in the period 1926-1944, the average Canadian received each year only 0.7 per cent more health services, while in the post-war period the annual average increase in *volume* of services amounted to 3.7 per cent. The output of the health services industry as well as real per capita consumption can be seen from an examination of Tables 11-12 and 11-13 which present the constant (1957) dollar or volume estimates for total and per capita consumption of various personal health services. Between 1926 and 1961 the total real output of the industry increased nearly fourfold from $346 million to $1,454 million, and per capita consumption rose from $36.65 to $79.74, indicating that the average Canadian more than doubled his consumption of personal health services during this period while his expenditures were increasing about fivefold. If prescribed drugs are included in personal consumption, total *real* output almost tripled in the post-war period rising from $575 million to $1,559 million, or to 4.4 per cent of GNE. In per capita terms, the increase was from $47 to $85. The inclusion of general and public health services,

along with capital expenditures on hospitals, as shown in Table 11-14 would raise total real health spending in 1961 to $1.814 million or to 5.2 per cent of GNE. In per capita terms to $99.44.[1]

Prices of Health Services

Prices of health services, as seen from Tables 11-11 and 11-15, experienced little over-all change in the period 1926 to 1945, rising slowly to 1929, declining until 1934 and only achieving their previous peak, on the average at the end of World War II. From 1945 the prices of all health services have risen steadily and have accounted for about 5 percentage points of the total growth rate of personal health spending or almost 45 per cent. It is noteworthy though, that while the index of the prices of personal health services rose from around 50 in the immediate pre-depression period to 100 in 1957, the implicit price index for GNE also rose by approximately the same amount.

Although the average price of health services has risen rapidly, the rate of increase has been slowing down, particularly in the last few years, as is evident from Table 11-16. Over the period 1945-1949 to 1957-1961, in each five-year period the contribution of price increase to the growth rate of total spending on health services has diminished and the contribution of per capita consumption has tended to increase. In the years 1950-1954, of a total increase of 10.9 per cent a year, the rise due to price change was 5.7 percentage points. In the period 1957-1961, out of a total growth rate of 10.3 the rise due to price change was 2.5 percentage points.

We have examined the major factors that have influenced directly the growth of spending on health services and we have noted the changing significance of each of these over the past generation. Even without any change in prices or individual consumption, over the period 1926-61, total expenditures would have risen by almost 2 per cent each year as our population has grown, and combined with increasing per capital consumption, would have risen by 4.2 per cent a year. In the post-war period rising prices have, it is true, contributed heavily to the increase of spending, but population growth and higher per capita consumption together accounted for an average rise of 6.4 per cent a year, and, if prescribed drugs and public health services were included, the percentage would be even higher. Taking a long-run view, and in view of the subsidies to health, the increases in per capita consumption and price level of health services have not been substantially larger than for other types of consumption and other prices, a development which concentration on the post-war behaviour of health

[1] Although there is insufficient data to calculate real expenditures on research, health education and health education facilities, it is likely that the real outlays on these items in 1961 did not exceed $20 million or the equivalent of 0.2 to 0.3 per cent of GNE and would not have changed the latter in any significant way.

spending tends to obscure. As can be seen from Table 11-17 the trend rates of growth of both per capita consumption and the prices of health services over the period 1926-1961 are fairly close to those for GNE and total personal spending, and it is the post-war experience that accounts for the difference.

TABLE 11-15 ESTIMATED CONTRIBUTIONS TO THE GROWTH RATE OF TOTAL SPENDING ON PERSONAL HEALTH SERVICES AND HOSPITAL CAPITAL, CANADA, SELECTED PERIODS, 1926-1961

(percentages)

Period	Population	Price	Per Capita Consumption	Total
Personal Health Services Excluding Prescribed Drugs				
1926-44	1.3	−0.1	0.8	2.0
1945-61	2.6	5.1	3.7	11.8
1926-61	1.9	2.4	2.3	6.7
Personal Health Services Including Prescribed Drugs				
1945-61	2.6	4.9	3.8	11.7
Total Expenditures on All Health Services				
1947-61	2.7	4.7	3.5	11.3

SOURCE: Madden, J. J., *Economics of Health*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

TABLE 11-16 ESTIMATED CONTRIBUTIONS TO THE GROWTH RATE OF TOTAL SPENDING ON HEALTH SERVICES AND HOSPITAL CAPITAL, CANADA, SELECTED QUINQUENNIA, 1945-1961*

(percentages)

Period	Population	Price	Per Capita Consumption	Total
1945-49	2.7	7.4	5.4	16.3
1950-54	2.7	5.7	2.2	10.9
1955-59	2.7	3.9	3.5	10.4
1957-61	2.4	2.5	5.1	10.3
1945-61	2.6	4.9	3.9	11.8

*Includes estimated expenditures on public health services for the year 1945 not included in Table 11-18.

SOURCE: Madden, J. J., *Economics of Health*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

EXPENDITURES ON INDIVIDUAL HEALTH SERVICES

What is true of total health expenditures is also true of spending on individual health services. Tables 11-1 and 11-9 show the varying rates at which expenditures on individual health services have increased over the period 1926-1961. Outlay on hospital services rose from $52 million to $924 million; physicians' services from $65 million to $383 million; dentists' services from $19 million to $119 million; other services from $27 million to $115 million and the administrative costs of health insurance from $3 million to $72 million. Between 1945 and 1961 expenditures on prescribed drugs[1] rose from roughly $23 million to $111 million while from 1947 to 1961, public health expenditures increased from $21 million to $105 million. Expenditures for the administrative costs of health insurance and for hospital services grew the most rapidly, over eight per cent each year, expenditures on physicians' and dentists' services grew at a somewhat lesser rate, a little more than five per cent a year, while other expenditures grew at a rate of slightly more than four per cent.

There were, of course, fluctuations around the long-term trend of spending on various services. Expenditures on physicians' services rose to $77 million in 1929 but fell to less than half this amount by 1934, and did not surpass the previous peak expenditure until 1946, 17 years later. Expenditures on dental and other health services fell by about 50 per cent during the depression and expenditures on dentists' services regained their previous peak level by 1943, expenditures on other health services did not reach this level until 1947. Expenditures on hospital services declined but slightly in the depression period, quickly recovered and surpassed their previous peak level in 1934. Since the end of the war spending on all health services increased at a rapid rate. Table 11-9 also provides evidence relating to the differing trend rates of growth in the various sub-periods. Thus in both the pre-war and post-war periods, hospital expenditures and the administrative costs of health insurance grew the most rapidly, while expenditures on physicians' services and dentists' services have experienced a rapid rate of increase only in the post-war period.

These changes in the rate of growth of expenditures on individual health services have not been the same for all health items, and this has been reflected in the changing pattern of consumer expenditures on health services (see Table 11-3). In 1926, physicians' services accounted for the largest share of the consumer dollar (39 per cent) followed by hospital services (31

[1] Prescribed drugs as shown in Tables 11-1 and 11-9 cover pharmaceuticals purchased on a physician's prescription from retail outlets. Thus the data exclude prescribed drugs supplied in hospitals, by other institutions and by physicians directly. Hence these data on prescribed drugs referred to above cover a smaller area of prescribed drugs than the estimates presented in Chapter 9 which relate to *all* prescribed drugs.

per cent), other services (16 per cent), dentists' services (12 per cent), and the administrative costs of health and sickness insurance (two per cent). Between 1930 and 1934 the percentage of the consumer dollar spent on medical, dental and other health services fell from 66 per cent to 50 per cent and hospital expenditures rose to 48 per cent. There was a slight reversal of this trend in the period 1935-42 when expenditures on physicians' and dentists' services expanded more rapidly than hospital expenditures, but from that date down to 1954 the proportion of the consumer dollar going to physicians' services contracted, while the proportion going to hospital services expanded. By 1954, hospital expenditures accounted for almost 57 per cent of expenditures as against 24 per cent for physicians' services. The contraction of spending was also marked in dentists' and other services which had declined to 8.4 per cent and 6.3 per cent respectively in 1954.

In 1954 this long-term shift was temporarily reversed but resumed again in 1959, and by 1961 hospital expenditures accounted for 57.3 per cent of total spending on personal health services, and physicians' services

TABLE 11-17 AVERAGE ANNUAL PERCENTAGE CHANGES IN EXPENDITURES ON PERSONAL HEALTH SERVICES, TOTAL PERSONAL EXPENDITURES AND GROSS NATIONAL EXPENDITURES IN CURRENT AND CONSTANT (1957) DOLLARS, CANADA, SELECTED PERIODS, 1926-1961

Period	Expenditures on Personal Health Services*				Total Personal Expenditures			
	Total Expenditures		Per Capita Expenditures		Total Expenditures		Per Capita Expenditures	
	Current Dollars	Constant (1957) Dollars	Current Dollars	Constant (1957) Dollars	Current Dollars	Constant (1957) Dollars	Current Dollars	Constant (1957) Dollars
1926-29	5.1	3.5	3.0	1.5	9.2	8.9	7.2	5.1
1930-34	−9.2	−4.3	−10.7	−5.7	−8.2	−2.8	−3.5	−4.1
1935-39	4.8	3.6	3.8	2.7	4.5	3.0	3.6	2.4
1940-44	4.6	2.4	3.3	1.2	8.7	4.5	7.4	3.4
1945-49	14.7	6.2	11.5	3.4	11.9	3.7	8.9	0.9
1950-54	10.6	4.4	7.5	1.6	7.6	3.8	4.7	1.0
1955-59	11.6	7.3	8.6	4.5	6.7	4.3	3.8	1.5
1957-61	11.1	8.2	8.5	5.8	5.1	3.5	2.6	1.3
1926-44	2.0	2.1	0.7	0.7	3.2	2.9	2.0	1.6
1945-61	11.8	6.3	9.0	3.7	8.3	3.9	4.5	1.3
1926-61	6.7	4.1	4.7	2.2	5.7	3.5	3.8	1.6

* Excludes prescribed drugs.

TABLE 11-17 · AVERAGE ANNUAL PERCENTAGE CHANGES IN EXPENDITURES ON PERSONAL HEALTH SERVICES, TOTAL PERSONAL EXPENDITURES AND GROSS NATIONAL EXPENDITURES IN CURRENT AND CONSTANT (1957) DOLLARS, CANADA, SELECTED PERIODS, 1926-1961—*Concluded*

Period	Gross National Expenditure			
	Total Expenditures		Per Capita Expenditures	
	Current Dollars	Constant (1957) Dollars	Current Dollars	Constant (1957) Dollars
1926-29	6.0	6.1	3.9	4.0
1930-34	−9.5	−4.8	−10.9	−6.4
1935-39	6.9	5.6	5.8	4.6
1940-44	15.1	9.9	13.8	8.5
1945-49	8.4	1.3	5.4	−1.4
1950-54	8.4	3.6	5.3	1.0
1955-59	6.5	3.4	3.1	0.8
1957-61	3.9	2.2	1.6	0.0
1926-44	4.7	4.2	3.4	2.8
1945-61	7.4	3.4	4.7	1.1
1926-61	5.8	3.7	3.9	1.7

SOURCE: Based on Tables 11-1 and 11-12; and Dominion Bureau of Statistics, *National Accounts, Income and Expenditure,* 1926-1962, Ottawa: Queen's Printer.

23.8 per cent. If prescribed drugs are included in total expenditures, in 1961 these amounted to 6.5 per cent of total spending while hospital expenditures amounted to 53.6 per cent and expenditures on physicians' services to 22.2 per cent. The growing percentage allocated to hospital care reflects the important role of hospitals in modern medical practice as well as the introduction of the National Hospital Insurance Programme which enabled many Canadians to obtain hospital care not previously available.

Health Resources and Health Spending

We have already referred to the continued increase in spending on health services when expenditures on certain other services have tended to slow down and we have attributed this development partly to the special factors that have affected the demand for health services. It must also be recognized that the behaviour of the supply of health services, through its effect on the price of health services, has influenced the rate of increase in

total spending. In the face of a sustained high demand for health care, the price of individual health services has depended on the ease with which the supply of particular health personnel and capital equipment could be expanded and the possibility of making more effective use of existing health resources.

Generally speaking, as long as supply can expand at the same rate as demand, the prices of services will tend to change but little, and per capita spending on health services would increase mainly as personal consumption rose. If supply tends to lag behind demand, then providing there are no price controls or rationing by queues, prices are likely to rise sufficiently to allocate these scarce resources amongst all those who wish to obtain them. Given the length of time it takes to expand the supply of professional personnel and the stock of capital of the health industry, it is not then surprising that the prices of health services and thus expenditures on health services tend to rise even more rapidly when demand is also growing rapidly.

We turn now to an examination of the variations in price and per capita consumption of individual health services. Bearing in mind the limitations of the data particularly for the pre-war period, it appears from Table 11-18 that per capita consumption of hospital care increased between 1926 and 1944 while per capita expenditures in real terms on medical and other health services declined. Per capita consumption of dental services appears to have increased though the extent may be less than the data indicate because of the limited statistics available on prices of dental services. The increased consumption of hospital services amounted to about 2 per cent a year while the decrease in consumption of medical services was of the order of 1.3 per cent a year. In the post-war period, the per capita consumption of all services has risen substantially with prescribed drugs increasing at about 5 per cent a year, medical services about 4 per cent, hospital and other services about 3.5 per cent and dental services about 2.2 per cent.

Except for hospital care which rose by 1.2 per cent and dentists' services which fell by 2.1 per cent, the prices of health services showed little over-all change in the period 1926-44. In the post-war period, the price of hospital services has risen the most rapidly at around an annual average rate of 6.5 per cent a year, while prices of dentists' services have increased at a trend rate of 3.9 per cent, prices of physicians' services around 3.5 per cent and prices of prescribed drugs around 2.3 per cent. Since the trend rate of growth of the prices of all services has risen at a rate of 3.9 per cent a year in the post-war period, the price of government services (as measured by the increase in price of the goods and services purchased by governments) by 4.6 per cent, and the price of capital goods by 4.9 per cent, it is evident that

TABLE 11-18 ESTIMATED CONTRIBUTION TO THE GROWTH RATE OF SPENDING ON SELECTED ITEMS OF HEALTH CARE, CANADA, SELECTED PERIODS, 1926-1961

(percentages)

Period	Population Change	Price Change	Per Capita Real Consumption	Total Growth Rate
Physicians' Services				
1926-44	1.3	0.1	−1.3	0.1
1945-61	2.6	3.5	4.1	10.6
1926-61	1.9	1.7	1.5	5.2
1945-49	2.7	4.8	3.4	11.3
1950-54	2.8	4.4	1.3	8.7
1955-59	2.7	3.7	5.3	12.1
1957-61	2.4	2.6	3.9	9.2
Dentists' Services				
1926-44	1.3	−2.1	2.3	1.5
1945-61	2.6	3.9	2.2	9.0
1926-61	1.9	0.7	2.6	5.3
1945-49	2.7	3.2	3.7	9.9
1950-54	2.8	4.5	2.9	9.3
1955-59	2.7	3.9	3.0	9.9
1957-61	2.4	3.4	2.0	8.0
Hospital Services				
1926-44	1.3	1.2	1.9	4.5
1945-61	2.6	6.5	3.4	13.0
1926-61	1.9	3.7	2.7	8.5
1945-49	2.7	10.8	3.4	17.7
1950-54	2.8	7.2	1.8	12.2
1955-59	2.7	4.3	3.8	11.2
1957-61	2.4	2.6	6.6	12.0
Other Health Services				
1926-44	1.3	0.1	−2.3	−0.9
1945-61	2.6	3.5	3.6	10.0
1926-61	1.9	1.7	0.6	4.2
Prescribed Drugs				
1945-61	2.6	2.3	5.0	10.2
1957-61	2.4	1.6	3.1	7.2
General and Public Health				
1947-61	2.7	5.1	3.0	11.2
Capital Construction of Hospitals				
1926-44	1.3	—	—	—
1945-61	2.6	5.0	5.8	13.9
1926-61	1.9	—	—	—

SOURCE: Based on Tables 11-1, 11-4, 11-5, 11-9 and 11-11.

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the prices of health services, except for hospital services, have increased no more rapidly than the prices of a great many other goods and services (Table 11-11).

Moreover, although the rate of increase in expenditures on individual health services has been high because of population growth, price change and increased per capita consumption, increasingly it has been the last factor that has tended to hold the growth rate at a high level (Table 11-18). The rate of increase in price has slackened off so that hospital prices which increased by about 11 per cent a year in the quinquennium 1945-49, by 1957-61 were rising at a rate of only 2.6 per cent. Prices of physicians' services too experienced a slowing down in the rate of growth from 4.8 per cent a year to 2.6 per cent while prices of dentists' services, which had not increased as rapidly in the immediate post-war years, continued to rise at about the same trend rate of 3.4 per cent. The growing importance of per capita consumption is indicated for most health services, with the increase being most marked in the consumption of hospital services, which rose from 3.4 to 6.6 per cent; and followed by physicians' services, 3.4 per cent to 3.9 per cent. Only dentists' services appear to have experienced a slowing down in the rate of increase in consumption from the immediate post-war period, from 3.7 per cent to 2 per cent a year.

Physicians and the Supply of Medical Services

The changes in the trend rate of growth of per capita consumption, given the growth of demand for health services generally, has been related to a large extent to the supply of health capital and personnel. For example, the consumption of almost all hospital services, prescribed drugs and medical services depends on the supply of physicians and their productivity. In the immediate post-war period, the accelerated medical course introduced during the war, along with the return of physicians from the Armed Forces to civilian life increased the supply of physicians and permitted an increase in per capita consumption of medical services despite a growing population. Since that time three other factors have enabled an expansion of physicians' services. The first was the influx of veterans into medical schools that enlarged the supply in the early nineteen fifties. The second has been the substantial number of immigrant physicians that have come to Canada since the mid nineteen fifties and which has more than offset the number of physicians moving to the United States.[1] The third has been the increased output of individual physicians and the longer hours worked by physicians.

The growth of the supply of physicians is evident in that their number increased by one-third between 1951 and 1961, and the physician-

[1] See also Chapter 7.

population ratio fell from 976 persons per physician to 869 persons per physician between 1951 and 1961. It has also been presented to us that compared with the pre-war period physicians now work longer hours on the average with a consequent increase in the volume of medical services provided by practising physicians per year. Equally important, it appears, has been the increased productivity of physicians arising from the change in the character of practice with greater emphasis on office or hospital calls and relatively lesser numbers of house calls. This trend has been facilitated by the greater use of cars by patients, increasing consultation by telephone and the improvement in health services made possible by the utilization of a large quantity of modern equipment and specialist personnel in the diagnosis and treatment of illness. Although the physician remains largely self-employed he has increased his productivity by expanding the use of nursing and non-professional staff in his office practice. However, he is almost unique in our society in that he has access to very large amounts of human and physical capital in hospitals, little of which he has to provide himself but which is provided by society at large. There are exceptions to this in group practice and private radiological clinics but these are still relatively few in number in Canada and the productivity of physicians has been substantially increased through their access to hospital facilities. Physicians can now see more patients each year, perform more operations, provide more diagnostic services; in sum to provide a growing number of Canadians with more medical care each year.

The data presented in Table 11-19 support this statement. The most significant point brought out by the estimates is the trend, the index of output per physician.[1] Since in 1931 physicians were working at less than full capacity, part of the increased output of the late nineteen thirties and early nineteen forties was the consequence of utilizing more fully the time of professionals. Since then output per physician has continued to rise as technical and organizational improvements produced their effects.

Dentists and the Supply of Dental Services

We have noted that the volume of dental services has increased less than either medical or hospital services. This is primarily due to the failure of the supply of dentists to keep up with population growth, which in turn was the consequence of a slow rate of increase in the output of Canadian dental schools and a very low rate of immgiration of dentists into Canada.[2] As an offset, as indicated in Table 11-19, productivity of individual dentists has been rising as practitioners use larger amounts of capital equipment, new

[1] The estimates for the early period are based on partial data. They are more useful to reflect trends than the absolute quantities involved.

[2] See also Chapter 7.

TABLE 11-19 ESTIMATED PRODUCTIVITY OF PHYSICIANS AND DENTISTS, SELECTED YEARS, CANADA, 1931-1961

Year	Physicians				Dentists			
	Number of Physicians*	Real Output	Output per Physician	Index Number	Number of Dentists	Real Output	Output per Dentist	Index Number
		millions of constant (1957) dollars	constant (1957) dollars			millions of constant (1957) dollars	constant (1957) dollars	
1931	8,160	103.5	12,683	100	4,039	25.4	6,288	100
1941	8,900	111.3	12,505	98	4,210	37.0	8,809	140
1951	10,750	185.9	17,293	136	4,912	64.3	13,090	208
1961	15,550	344.1	22,200	175	5,865	103.7	17,681	281

* Estimated number of physicians providing personal health services. Includes part-time private practice and salaried physicians, but excludes physicians engaged in public health administration, etc.

SOURCE: Madden, J. J., *Economics of Health*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

material, and new techniques. Further, the skills of dental assistants, dental technicians and other personnel have enabled dentists to increase further their productivity even though the practice of dentistry is primarily an office practice.

Supply of Hospital Services

The consumption of hospital services similarly has been facilitated by a rapid expansion in the supply of hospital beds. In the immediate post-war period not all hospital beds were fully utilized as can be seen from the occupancy rates of that period and, as a consequence, the growing demand for hospital care could be met, to some extent, from this unused capacity. Capacity was also increased as a consequence of the decline in the length of stay of the average patient which fell somewhat over the pre-war and early post-war period. This decline in the length of stay ceased in the nineteen fifties. New construction and the rehabilitation of older hospitals also made available increasing numbers of hospital beds. The consequence of this growth in the capital stock has been that the total volume of hospital care has risen steadily as has per capita consumption.[1]

[1] See Chapter 8. From 1948 to 1961, admissions to hospital per 1,000 persons increased from 111 to 149, while days of care per 1,000 persons rose from 1,318 to 1,678.

At the same time, technical and scientific advances made it possible for hospital patients to use more diagnostic, radiological and laboratory services, new surgical techniques, highly effective rehabilitation services and social services. All of these developments increased the productivity of hospitals in terms of ability to save patients and to reduce periods of morbidity, but they all involved an increase in the supply of specialist facilities and professional and semi-professional personnel. The modern Canadian hospital has expanded to supply all of these facilities and consumers have been able to increase not only their consumption of hospital care in real terms, but more services within each day of care. Similarly the supply of professional nurses, auxiliary nurses, laboratory technicians, physical therapists to name but a few, has grown at a rate sufficient to make possible the increased consumption of all of these specialist services. Between 1948 and 1960, the ratio of total hospital personnel to patients rose from 1.27 to 2.01.

Because the number of personnel employed in hospitals relative to the number of patients treated has risen does not mean that hospital productivity has fallen. As we have noted, individual patients, on the average now obtain more services during an average stay and this alone would require more personnel for each patient. Nor should it be forgotten that the growth of the supply of hospital capital, both human and physical, has taken place, in part, in response to the need to increase the productivity of physicians. The relatively long period it takes to train a physician in this day of specialization has made it necessary to economize on these scarce and expensive skills. As has happened in so many occupations, this has been brought about by the increasing use of equipment and paramedical personnel. In the health services industry this has meant the concentration of care in hospital (and to a lesser extent in physicians' offices) where capital and personnel are available. The shift in spending by the consumer from physicians to hospital services that we have already identified was brought about by the medical profession itself as it attempted to meet the demands of consumers and to apply the results of scientific and technical advances in medicine and allied sciences.

Prescribed Drugs and Other Health Items

What has been said about medical, dental, and hospital care is also true to a significant extent for prescription drugs and other health items. The consumption of these health services has risen, and with this increased consumption has gone increased spending. On the other hand, productivity increases have tended to limit price increases in the face of growing demand. Scientific and technical progress in the mass production of antibiotics and other drugs has made it possible for Canadians to consume a greater variety and amount of prescription drugs than would have been possible if such

developments had been more limited. The spread of health insurance has led to increased outlays for the administration of public and private health insurance plans. While limited statistical information makes it difficult to measure productivity in this area it has been presented to us that the growing use of data-processing equipment has held down the costs of administering health programmes.

Increased employment of capital equipment and skilled personnel appears to have increased productivity in the prescribing and manufacture of spectacles, in the work of chiropractors and osteopaths and the manufacture of prosthetic devices. Greater use of the automobile and the telephone has improved the productivity of home nursing organizations. In all of these examples increases in the price of health services have been less than they would have been because of the gain in productivity.

Expansion of Health Resources

We have been impressed with the success achieved through the co-operation of governments, industry, the professions and the general public in expanding the supply of health services. It is true that the prices of health services have risen in the process but the rate of increase in price has slowed down in response to the expanded supply. And this decline would have been more marked if it had not been for the spread of physicians and hospital insurance to new groups and the coverage of items not previously insured, particularly for the aged, the chronically ill and the pregnant. Indeed the increases in price that have taken place have performed an extremely useful function that is often overlooked. They have called forth an expanded output of health services both by attracting more labour into this particular industry as well as offering an incentive to develop and apply new techniques for increasing productivity. Without higher prices for health services, whether these were a day of hospital care, an operation, or a visit to a physician's or dentist's office, it would have been difficult to hold, and still more difficult to attract, the personnel needed to staff the hospitals, clinics, physicians' and dentists' offices. In this sense, the rising prices of health services have been largely demand-induced rather than cost-induced. Rising incomes and the stimulus provided by the growth of public and private insurance, along with public subsidies, have generated a continuously expanding demand for medical and hospital services. Moreover, the transfer of a major part of the direct cost of hospital care from the individual to society, largely through the substitution of taxes for direct payment, has permitted the purchase of other health services—the provision of a more comprehensive set of benefits—or the consumption of more medical and other health services. This trend in

the growth of demand in turn caused prices to rise which effectively attracted additional resources into the industry.

The evidence suggests that it has been largely the growth of demand for more and better quality hospital care and a willingness to spend increasing amounts of money for health services that has made it possible for hospitals to raise salaries and generally improve working conditions by providing a 40-hour week, holidays with pay and fringe benefits such as pension programmes and prepaid health care. Without these improvements hospitals would not have been able to attract the better educated and more qualified personnel required to provide the better health care demanded. The relative attractiveness of opportunities in the United States or Great Britain for health personnel, as well as other occupations such as teaching or secretarial work for prospective health professionals and industrial employment for other personnel would have made it impossible to hold staff, to attract trained personnel from Europe or new entrants into the industry. Wage increases occur most frequently in industries where productivity is rising and where the demand for output remains at a high level. The hospital industry is very much of this nature. What we have said about hospital personnel is also true of medical and dental personnel. In order to attract physicians from Europe, or to hold Canadian physicians and dentists at home, and to attract students into professions where the qualifications necessitate a long period of difficult education, it has been necessary to offer incomes that will compensate for the investment in human capital and which are at least close to what might be earned elsewhere. In the face of a rapidly growing demand the price of health services has risen. But the rise in price has been limited by the expansion of the supply of human and physical capital and scientific, technological and organizational innovation that has substantially increased productivity.

Here again we must emphasize the contribution of Canadians through public action to this development. Just as governments have subsidized the demand for health services, so have they also subsidized the expansion of supply of health personnel and facilities. The supply of hospital beds for the mentally ill and the retarded, along with beds for tuberculous patients, has been built almost entirely from public funds while a sizeable proportion of the cost of building and equipping active treatment hospitals has also been financed in this way. Again, although it costs the individual a substantial sum of money in out-of-pocket costs and foregone earnings—to finance a medical or dental education—or for that matter, a nursing or other health professional education, public funds have been used to subsidize this education, particularly in those areas where health grants have been available. Tax remissions for citizens who provide funds for the building of hospitals, medical schools

or education in the health professions have also stimulated the provision of health resources.

The Sequence: Increased Demand, Increased Prices and Increased Supply

We have examined the major categories of personal health expenditures and we have found that they all have gone through much the same experience: increased demand, increased price and finally an increase in supply with a slowing down in the rate of price increase. The continued high level of demand has created an upward pressure on prices that has persisted up to the present, despite the growth of the supply of health facilities and capital. The consequence has been that health prices, and thus health expenditures, have continued to rise when other prices and categories of spending have risen much more slowly or not risen at all.

But, as we have already emphasized, this continued pressure of demand will eventually slacken off when a new plateau is reached consequent on the elimination of the backlog of unsatisfied needs for hospital care for the chronically ill and the aged, and ultimately the relative shortage of skilled personnel will tend to disappear. Partly, the continued increase in the productivity of health personnel and capital which has helped to make possible the great expansion of output with limited equipment and personnel should continue to make this contribution in the future, though more likely at a declining rate unless some new technological or scientific breakthrough similar to the development of drugs for the treatment of tuberculosis takes place. Unlike the production of many other goods, or services, technical innovation in the health industry is both capital- and labour-using and the industry requires, and will continue to require, large numbers of highly trained professional personnel. The recent developments in human engineering such as the transplanting of organs and the development of engineering systems that take over the functions of the body all require very large numbers of highly skilled personnel. For the most highly trained, the specialist physician, the period of advanced education may extend as long as ten to twelve years while registered nurses now require three years of training beyond the high school level. It is true that a nurse's aid can be trained in less than one year, but since human lives are at stake it may be that the consequence of diluting the professional bedside nursing staff has been an increase in supervisory nursing staff to ensure that the quality of nursing care is maintained. The immigration of trained personnel can offset these short-term scarcities to some extent, but this supply depends not only on the possibilities of attracting well qualified personnel from other countries but also on the

time required to fit new arrivals into the pattern of health care provided in Canada,[1] the improvement of incomes and working conditions in the United States of America and Europe relative to Canada.

This brings us to one of the main points of our analysis. If the quality of care depends on professional staff, and professional staff are scarce and take a long time to produce, then it follows that if no restraints are placed upon prices and demand is subsidized, prices of services will rise and likely rise for a long period of time. This, of course, has been the recent trend in higher education. Where it has been impossible or difficult to substitute machines for man, where qualified teachers are scarce and where the demand for education is subsidized by making it available free or at a very low cost, then teachers' salaries have risen rapidly. On the other hand, higher salaries have attracted large numbers of students in teaching careers so that today the scarcity of elementary school teachers in many areas is ended, and qualified high school teachers are less scarce than a decade ago. The most pressing scarcity today is at the university level and in consequence salaries of professional staff have been rising rapidly. Yet the last few years have seen the supply of graduate students begin to expand under the impetus of the growth in population, public assistance to university development and the availability of scholarships, and in a decade or so even the shortage of university professors may well be reduced to manageable dimensions.

As long as quality of staff is significant in the provision of any services, as long as quality is a function of higher education, and as long as demand is subsidized, the prices of such services will rise, and likely more rapidly than those of most other goods and services. The prices of services, however, affect the incomes of suppliers of services, and the higher incomes ultimately will draw more people into these professions. Since eventually even the demand for any single subsidized service will level off and grow at a rate determined largely by population growth and the speed with which research and technology make it attractive for consumers to use it, in the long run the prices of health services are unlikely to rise significantly more rapidly than prices in general.

Providing the necessary educational facilities, e.g., medical schools, dental schools and nursing schools, etc., and the staff to man them are available, the personnel needed to provide services ultimately will be forthcoming at prices that are reasonably consistent with the amount of human capital they embody. In the case of personnel with many years of training this price must necessarily be high to yield a reasonable rate of return on investment and attract a sufficient number into the profession.

[1] See also Chapter 7.

Health Expenditures by Public Authorities

In estimating the expenditures for health services provided directly by public authorities we are concerned here only with expenditures for general and public health since public provision of, or expenditures on, hospital, medical, dental and nursing care along with prescribed drugs has already been included with estimated expenditures on these particular items. As shown in Table 11-4 expenditures rose from $21 million in 1947 to $105 million in 1961 while per capita expenditures rose from $1.67 to $5.76.[1] As a proportion of GNE, these expenditures have remained small rising from 0.16 per cent in 1947 to 0.29 per cent in 1961. Even when expenditures for municipal sanitation are included—these amounted to $166 million in 1961—total outlays barely amounted to 0.6 per cent of GNE.

During this period as shown in Table 11-18, the growth rate of spending on public health rose at a trend of 11.2 per cent a year. Of this, population growth accounted for 2.7 percentage points, price increases for 5.1 percentage points, and per capita consumption for 3.0 percentage points. As with other health expenditures the trend rate of growth has been slowing down in recent years, amounting only to 7.4 per cent during the period 1957-61. There are indications that price increases still account for part of the growth rate but since there are no direct measures of the change in price of government services this cannot be fully demonstrated.

Expenditures on Medical Research

The rapid spread of research in the field of medicine and drugs has been almost the major characteristic of the health industry in the past thirty years and the pay-off in terms of lives saved and individuals restored to health in many individual projects has been substantial. It is only necessary to recognize the results that flowed from the discovery of such things as insulin, penicillin or polio vaccine compared to the costs of discovery and development to be aware that the return to investment in research can be substantial. Canadian contributions to the development of new knowledge since the discovery of insulin have not been unsubstantial considering the effects involved and sums of money spent. In addition there have been supplementary benefits in the form of strengthened teaching departments.

Expenditures on medical research in Canada, while still absolutely small, compared to a country like the United States, have been rising rapidly in recent years. In 1961, expenditures on medical research are estimated to

[1] Includes some outlays for medical research and education of health personnel made under the National Health Grants.

be $12 million. About 70 per cent of this amount came from the Federal Government, something less than ten per cent from the United States National Institute of Health and the remainder from provincial governments, voluntary agencies and foundations. Since the Federal Government provides the bulk of research funds, the trend in the growth rate of such funds is an indication of how rapidly health research expenditures have been growing. Thus in 1946-47, federal support for extra-mural research amounted to $158,000. In 1962-63 this had increased to $8.3 million.[1]

Expenditures on Hospital Capital

Although information relating to the value of health capital is limited, some rough estimates can be made on the basis of the data reported by public general hospitals to the Dominion Bureau of Statistics, and other information. It is estimated that the depreciated value of hospital capital in 1960 amounted to at least $1,500 million while the replacement value was likely of the order of $2,500 million. In addition, substantial amounts have been invested in medical and dental buildings, private radiological clinics and laboratories, pharmacies, medical and dental schools and government health facilities for which no separate information is at present available.

We have already referred to the growth of the stock of hospitals along with their associated diagnostic, research teaching and residential facilities and Table 11-5 indicates the current and constant (1957) dollar value of gross investment in hospitals and associated facilities. The value of construction has increased sharply in the post-war period rising from $22 million in 1945 to $178 million in 1961 and then to $213 million in 1963. As a percentage of GNE, capital investment in hospitals rose from 0.19 in 1945 to 0.44 per cent in 1949 and has fluctuated around that ratio since that date. With the introduction of the national Hospital Insurance Programme the absolute amounts spent on hospital construction have risen but the percentage of GNE devoted to construction has, on the average, tended to decline from the high rate of the 1953-55 period, with a peak of 0.54 in 1955.

Over the post-war period, the trend rate of growth of expenditures on hospital construction has been 13.9 per cent a year. Of this, 2.6 percentage points can be attributed to population increase, 5 percentage points to increased prices and 5.8 percentage points to increased hospital capital

[1] Research expenditures on ethical drugs carried out by the pharmaceutical industry are included in expenditures on prescribed drugs.

per person. The pattern of consumption and price rises, therefore, has not been significantly different from other health spending.

Expenditures on Educating Health Personnel

An assessment of the total expenditures made for the education of health personnel involves many conceptual and statistical problems.[1] Many outlays for the education of health personnel are made as part of the provision of general education and are thus not included in the health budget. In other cases educational expenditures are an integral part of other categories of spending such as hospital expenditures. In this study nursing education is included with hospital expenditures and in part is offset by services rendered by nurses in training. Hospital expenditures also include outlays for medical education. Some post-graduate medical education is included under the heading of medical research expenditures. Taking account of the limitation of data, our analysis is based on estimates of the costs of educating health personnel contributed directly by governments. And even here, the only adequate data obtainable, were outlays made under the National Health Grants which in 1961 amounted to $3.7 million.[2]

Total Health Spending

If we include expenditures on research, public health, grants-in-aid of education and health capital in order to arrive at an aggregate of all health spending, Table 11-7 shows that in 1961 Canadians spent a little over $2 billion on health services or an average of almost $111 per person. This was the equivalent of 5.4 per cent of GNE.[3]

We have also included an estimate of expenditures on non-prescribed drugs and pharmaceuticals in this table since from the point of view of the consumer these may be considered as a health outlay. In 1961 such expenditures amounted to approximately $210 million.[4] Hence the total amount spent on health would be increased to approximately $2.23 billion or $122 per capita, the equivalent of about 6 per cent of GNE.

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[1] Statistics on education of health personnel are incomplete and particularly inadequate for an up-to-date assessment of what is being done in this field, what the gaps are and how they can be filled. We point to this inadequacy in the hope that the government departments concerned would endeavour to fill this gap in statistical knowledge on a current and continuing basis so as to enable decision-makers to arrive at reasonable conclusions as to the future requirements on the basis of factual knowledge of the past and the present.

[2] Some statistics relating to the sources of funds for the financing of undergraduate education of physicians, dentists and pharmacists is to be found in the report prepared by the Dominion Bureau of Statistics, *University Student Expenditure and Income in Canada, 1961-62*, Part II—Canadian Undergraduate Students, Ottawa: Queen's Printer, 1963.

[3] Estimated expenditures on health exclude a small amount for prescribed drugs supplied in residential institutions such as homes for the aged. The addition of this sum, which is at present not known, would be unlikely to change this percentage of GNE.

[4] See also Chapter 9.

SOURCES OF FUNDS FOR HEALTH EXPENDITURES

Methods of Financing

As we have already emphasized there is a distinction between a nationalized industry and an industry from which governments, acting on behalf of their citizens, buy a substantial part of its output. This is evident if we consider the defence industry. Here all of the output of the industry is used by government, but a substantial proportion is produced not by governments, not by a nationalized industry, but by private corporations and then sold to the government. The same can be said to a greater or lesser extent for the construction industry, the transportation industry and numerous other industries including the health industry. Governments, acting on behalf of their citizens, directly provide hospital and medical services for the Armed Forces, Indians, veterans, tuberculous and mental patients but by far the largest proportion of such services are not produced by governments but purchased from institutions such as community hospitals, physicians, dentists, pharmacists and others. We are concerned then, not with the direct provision of health services in Canada, but with the sources of funds for the financing of expenditures on such services.

The financing of health services has always been the responsibility of individual Canadians since they are the ultimate sources of funds. Here though, we wish to distinguish between the public financing of health services and private financing either by individuals or by private insurance programmes. Until the twentieth century the purchase of health services had been predominantly the responsibility of individual Canadians since neither government spending nor private insurance programmes were significant. Before World War I, total expenditures on health amounted to considerably less than one-half of one per cent of Gross National Expenditure. During the nineteen thirties, in the depression, large outlays on relief and social welfare became necessary, and by the year 1943 it is estimated that government expenditures for hospital and medical care, along with general public health, amounted to roughly $45 million or the equivalent of 18 per cent of total expenditures on personal health services in that year.[1] The greater part of this expenditure was for hospital care, particularly for hospital care for the mentally ill and tuberculous and the proportion of outlays for hospital care met by government is estimated to have exceeded 35 per cent in that year.

[1] Based upon Health, Welfare and Labour, Reference Book for Dominion-Provincial Conference on Reconstruction, 1945, *passim.*

Private and Public Health Expenditures

Since the war there has been an increase in the proportion of expenditures on health services that has been financed through the public sector. Much of this spending would have taken place in any event with the progress which Canadians have made in improving methods of providing health care. We have recognized that public programmes do stimulate the demand for health services, but many expenditures now financed by governments are merely a transfer of expenditures from the private to the public sector involving outlays that would have been made in any event. The channelling of funds to finance a comprehensive personal health care programme sponsored by governments is likely to lead to greater health expenditures than would otherwise be the case. To a large degree though the change is merely the substitution of public payment for private payment and to that extent no new net expenditure is involved.

The sources of funds for expenditures on hospital services in the post-war period are shown in Table 11-20. The proportion of expenditures provided by the public sector of the economy continued to rise in this period and reached nearly 50 per cent by 1950. In the mid nineteen fifties public expenditures appeared to have levelled off at around 55 per cent but with the introduction of the national Hospital Insurance Programme in 1957 the proportion borne by the public sector continued to rise, and by 1961 had risen to 88 per cent or $924 million. The detailed sources of funds also are shown in Table 11-20. Here deficits of active treatment hospitals are shown separately although these are predominantly met from public funds.

The distribution of funds in the private sector indicates that the proportion of total hospital expenditures, including expenditures on mental and tuberculosis hospital care, financed by voluntary insurance, never accounted for a very substantial share of such expenditures. In 1953, payments by voluntary insurance programmes on behalf of their members amounted to $63 million or about 16 per cent of total expenditures, and at their peak in 1958 reached $125 million or about 20 per cent. In the same year, patients and other non-public sources contributed $130 million, also about 20 per cent. By 1961, voluntary hospital insurance programmes still provided nearly $49 million, and patients and other sources $61 million, the equivalent of about 12 per cent of all hospital expenditures. Many of the payments made by patients or by voluntary insurance programmes are for semi-private and private hospital care, not an insured benefit under the Hospital Insurance Programme, but some of it is the consequence of the manner in which certain provinces finance their share of the costs—by a small per diem charge to patients. In one sense then, the classification of sources of funds used in Table 11-20 is somewhat arbitrary since premiums paid by individuals and

TABLE 11-20 SOURCES OF FUNDS FOR EXPENDITURES ON HOSPITAL SERVICES, CANADA, SELECTED YEARS, 1948-1961*

Item	1948	1950	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$'000,000										
Patient and Other Revenue†	116.5‡	144.1‡	117.0	113.5	108.2	129.2	139.5	129.7	97.7	114.5	61.4
Voluntary Insurance[a]	—	—	62.7	75.8	85.9	100.6	117.0	125.5	58.9	58.7	48.9
Sub-total	116.5	144.1	179.7	189.3	194.1	229.8	256.5	255.2	156.6	173.2	110.3
Public Insurance[b]	13.0	32.2	46.5	53.6	58.5	62.5	68.7	100.1	324.8	367.3	565.0
Workmen's Compensation[c]	—	—	7.1	7.7	8.7	10.2	10.8	11.6	12.2	12.7	16.5
Sub-total	13.0	32.2	53.6	61.3	67.2	72.7	79.5	111.7	337.0	380.0	581.5
Deficits of Active Treatment Hospitals[d]	2.2	4.8	13.2	15.9	18.9	22.1	25.8	30.4	13.3	20.6	5.9
Govt. Grants, Payments for Individuals and Federal Hosp.[e]	83.3	120.2	157.6	180.2	199.9	205.1	225.6	242.7	227.2	252.4	226.3
TOTALS	215.0	283.3	404.1	446.7	480.1	529.7	587.4	640.0	734.1	826.2	924.0
Public Insurance, Workmen's Comp. Govt. Grants and Payments, Two-thirds Deficits	97.7	137.6	219.9	252.0	279.6	291.9	322.1	374.4	573.0	646.1	811.7
Public Funds as a Percentage of Total Expenditures[f]	45.4	48.6	54.4	56.4	58.2	55.1	54.8	58.5	78.0	78.2	87.8

*Includes public and private active treatment, mental, tuberculosis and chronic hospitals. Excludes National Defence Hospitals.

†Includes direct payments by patients, gifts, charitable donations, contributed services, earnings from endowments, cash discounts and net revenue from ancillary operations, particularly income from mental hospital farms.

‡Includes payments by workmen's compensation and private insurance programmes not available before 1953.

[a]Excludes administrative costs.

[b]Excludes administrative costs. Includes premiums paid by business firms and residents of those provinces where premiums are levied.

[c]Excludes administrative costs. Includes premiums paid by industry.

[d]These deficits are covered at a later date by government and private funds. Assumed that two-thirds of deficits are covered by government sources.

[e]Includes a small unknown amount paid by patients in federal hospitals.

[f]Excludes workmen's compensation before 1953. It is estimated that including workmen's compensation public funds would have accounted for approximately 47 per cent of total expenditures in 1948 and 51 per cent in 1950.

SOURCE: Dominion Bureau of Statistics, *National Accounts; Mental Institutions; Tuberculosis Institutions; Department of Finance, Public Accounts;* Department of National Health and Welfare, *Expenditures on Personal Health Care in Canada*, 1953-1961, *Hospital Care in Canada, Selected Public Hospital and Medical Care Plans in Canada*, Ottawa: Queen's Printer.

families under the Hospital Insurance Programme are considered as public funds. If these premiums were to be included as part of the private sector then the private share of hospital financing would be somewhat greater.

The sources of funds for expenditures on personal medical services between 1953 and 1961 are shown in Table 11-21.[1] The private sector of the economy is the major source of funds for expenditures on personal medical services amounting to 85.3 per cent in 1953 and 87.6 per cent in 1961 with

TABLE 11-21 SOURCES OF FUNDS FOR EXPENDITURES ON PERSONAL MEDICAL SERVICES, CANADA, 1953-1961*

Item	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$'000,000								
Patients	108.0	108.0	115.2	132.9	139.6	144.9	153.8	161.3	168.9
Voluntary Insurance†	42.5	51.9	60.7	74.9	93.4	110.2	130.8	148.4	166.9
Sub-total	150.5	159.9	175.9	207.8	233.0	255.1	284.6	309.7	335.8
Public Insurance‡	1.7	1.5	1.7	1.8	2.0	2.6	2.9	2.9	3.2
Workmen's Compensation‡	12.2	14.1	15.0	15.9	18.8	20.9	21.8	23.0	24.2
Sub-total	13.9	15.6	16.7	17.7	20.8	23.5	24.7	25.9	27.4
Government Payments for Individuals	12.2	13.1	13.9	14.6	15.4	16.9	17.5	18.9	20.0
TOTAL	176.6	188.6	206.5	240.1	269.2	295.5	326.8	354.5	383.2
Public Insurance, Workmen's Compensation and Gov't Payments for Individuals	26.1	28.7	30.6	32.3	36.2	40.4	42.2	44.8	47.4
Public Funds as a Percentage of Total Expenditures	14.7	15.2	14.8	13.5	13.4	13.7	12.9	12.6	12.4

*Excludes all medical services where these are provided by salaried physicians, in hospitals or in industry. Excludes administrative costs of insurance programmes.

†See footnote 1, below. "Table 11-21 indicates . . .".

‡Includes premiums levied on persons or industries.

SOURCE: Department of National Health and Welfare, *Expenditures on Personal Health Care in Canada,* Ottawa, 1953-1961.

[1] Table 11-21 indicates that in 1961, payments made by voluntary insurance plans amounted to $167 million. This compares with $175 million indicated in Table 18-3. The difference between these two figures is primarily due to the inclusion of some hospital expenditures in Table 18-3 that are excluded here.

little significant change over the period. The sources of private expenditures have undergone a substantial change as voluntary insurance programmes accounted for an increasingly large share of private expenditures rising from 28.2 per cent in 1953 to 49.7 per cent in 1961. The trend rate of growth of outlays by voluntary insurance has declined from an annual average rate of nearly 22 per cent a year in the period 1953-1957 to 15.6 per cent in the period 1957-61. The reason for this rate of growth was likely the extension of coverage to people of working age who, because they belonged to certain identifiable and easily accessible groups, could readily be included in prepayment plans. With these groups now largely covered, the remainder, about one-half of Canada's population, consists of individuals whose health status, occupational status and location makes it more difficult to provide them with the same insurance as is provided for those already covered.[1] Hence we cannot expect the rapid rate of growth observed from 1953 to 1957 to continue and in fact the slowing in the rate of growth in the more recent period supports this conclusion.

Direct payments for personal medical services still remain large despite the growth of private insurance programmes and government expenditures. Between 1953 and 1961, direct outlays rose from $108 million to $169 million, and on the latter date these amounted to 45 per cent of all personal medical care expenditures.

Public funds have actually declined in importance as a source of financing for medical services despite the increase in absolute expenditures from $26 million to $47 million. This would be offset to some extent by the fact that some medical services are provided in hospitals by salaried physicians and interns whose incomes are met out of the Hospital Insurance Grant. Of the public sources in 1961, workmen's compensation payments amounted to $24 million, government payments for individuals to $20 million and public insurance payments to $3.2 million. With the introduction of a public medical insurance programme in Saskatchewan in 1963, this sum would now be somewhat higher.

If we combine hospital and medical services in one group then, as shown in Table 11-22 there has been a substantial shift from the private to the public sector, although the private sector still accounts for a very large percentage of the total outlays. In 1953, $246 million, or 42.4 per cent of all funds were provided by the public sector and $335 million or 52.6 per cent by the private sector. By 1961, principally because of public hospital insurance, the public sector accounted for $859 million or 65.7 per cent and the private sector for $448 million or 34.3 per cent. The distribution of expenditures in the private sector is also noteworthy. In 1953,

[1] See Chapter 10.

voluntary insurance programmes accounted for 31.9 per cent of the revenue provided by patients and other non-government sources. By 1961, this had risen to 48.4 per cent, but patients and other revenue sources still provided half of the funds needed to finance expenditures not covered by some public programme.

TABLE 11-22 SOURCES OF FUNDS FOR EXPENDITURES ON HOSPITAL AND PHYSICIANS' SERVICES, CANADA, 1953-1961

Item	1953	1954	1955	1956	1957	1958	1959	1960	1961
	$'000,000								
Patient and Other Revenue, Voluntary Insurance, One-third Hospital Deficits	334.6	354.5	376.3	445.0	498.1	520.4	445.6	489.8	448.1
Public Insurance and Workmen's Compensation	67.5	76.9	83.9	90.4	100.3	135.2	361.7	405.9	608.9
Government Grants and Direct Payment for Individuals, Two-thirds Hospital Deficits	178.6	203.9	226.4	234.4	258.2	279.8	253.4	285.0	250.2
Total Expenditures	580.7	635.3	686.6	769.8	856.6	935.4	1,060.7	1,180.7	1,307.2
All Public Programmes*	246.0	280.7	310.2	324.2	358.3	414.8	615.2	690.9	859.1
Public Programmes as a Percentage of Total Expenditures	42.4	44.1	45.2	42.1	41.8	44.3	58.0	58.5	65.7

*Includes public insurance, workmen's compensation, government grants, direct payments and hospital deficits covered.

SOURCE: Based on Tables 11-20 and 11-21.

Once we move beyond hospital and medical expenditures, the sources of funds for other types of health expenditures are difficult to delineate. Table 11-23 attempts to classify these expenditures in an approximate manner. Since the greater part of dental and other health services are financed in the private sector along with prescribed drugs these have been allocated to the private sector and in 1953 it is estimated that privately financed health expenditures amounted to $557 million compared with $389 million publicly financed expenditures. In 1961, privately financed expenditures had risen to $909 million but publicly financed expenditures had increased somewhat more rapidly and now amounted to $1,109 million.

TABLE 11-23 ESTIMATED PRIVATE AND PUBLIC EXPENDITURES ON PERSONAL HEALTH SERVICES AND OTHER HEALTH ITEMS, CANADA, 1953 AND 1961

Item	1953	1961
	$ '000,000	
Privately Financed:		
Hospital and Medical Services	334.6	448.1
Dental and Other Health Services*	105.5	233.8
Prescribed Drugs*	48.8	111.0
Hospital Construction†	39.5	58.6
Administrative Costs of Health Insurance‡	28.6	57.6
Sub-total	557.0	909.1
Publicly Financed:		
Hospital and Medical Services	246.0	859.1
Public Health Services[a]	58.0	105.0
Hospital Construction[b]	78.8	119.2
Administrative Costs of Health Research[c]	3.5	14.0
Health Research[d]	2.8	12.0
Sub-total	389.1	1,109.3
TOTAL	945.1	2,018.4

*Predominantly financed in the private sector so allocated to this sector.

†Estimated to be one-third of expenditures on hospital construction.

‡Excludes accident and sickness insurance. Includes dividends credited to policy-owners and increases in unearned reserves and advance premium accounts.

[a]Includes *some* expenditures for research and the education of health personnel made under the National Health Grants.

[b]Estimated to be two-thirds of total expenditures.

[c]Estimated costs of administering public hospital and medical programmes.

[d]Includes research grants made under the National Health Grants and other Federal Programmes.

SOURCE: Madden, J. J., *Economics of Health,* a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

Table 11-24 gives the percentage distribution of private and public spending on all health services along with hospital capital and other health items. In 1953, privately financed expenditures amounted to 58.9 per cent of total spending and public spending to 41.1 per cent. By 1961, privately financed spending, while still substantial had fallen to 45.0 and public spending had risen to 55.0 per cent. If expenditures on non-prescribed drugs are included in these estimates privately financed expenditures rose in 1961 to $1,113 million and accounted for 49.9 per cent of all spending while publicly financed spending accounted for 50.1 per cent.

TABLE 11-24 PERCENTAGE DISTRIBUTION OF PRIVATE AND PUBLIC SPENDING ON ALL HEALTH SERVICES, CANADA, 1953 AND 1961

Year	Privately Financed	Publicly Financed
1953	58.9	41.1
1961	45.0	55.0

SOURCE: Table 11-23.

CANADIAN GOVERNMENT EXPENDITURES ON HEALTH CARE BY LEVEL OF GOVERNMENT

Past Trends

As total government outlays for health care have increased, all levels of government have experienced increases in spending. As shown in Table 11-25, between 1947 and 1961 federal expenditures for health services rose from $57 million to $470 million, provincial expenditures from $87 million to $719 million and municipal governments from $27 million to $77 million.[1]

As the proportion of total spending on health services has increased so have there been some significant shifts in the outlays made at various levels of government. Provincial governments in this period have provided the greater part of the funds for government-financed health expenditures followed by the Federal Government and by municipal governments. As indicated in Table 11-26, in 1947 provincial governments accounted for 50.9 per cent of total expenditures, the Federal Government accounted for 33.3 per cent and municipal governments for 15.8 per cent excluding expenditures on sanitation and waste removal. By 1961, the proportion of expenditures met by provincial governments had risen to 55.3 per cent, the proportion met by the Federal Government had increased to 38.3 per cent while the proportion met by municipal governments had fallen to 6.4 per cent. Since 1961 these trends appear to be still continuing.

The significant shift in spending clearly has been the transfer of the burden of financing personal health services from the municipalities to the provincial and federal governments. This trend however has developed only since the introduction of the Federal-Provincial Hospital Insurance

[1] The data presented in Table 11-26 are not directly comparable with the data presented in Table 11-23, since they relate predominantly to fiscal rather than calendar years. The differences between the two estimates are minor.

TABLE 11-25 NET GENERAL EXPENDITURE ON HEALTH SERVICES, ALL GOVERNMENTS IN CANADA, 1947-1962, BY LEVEL OF GOVERNMENT*

Year	Federal	Provincial	Municipal†	Total
		$ '000,000		
1947	57	87	27	171
1948	60	114	31	205
1949	69	156	38	263
1950	72	172	43	287
1951	82	190	51	323
1952	88	210	53	351
1953	94	229	54	377
1954	100	257	67	424
1955	103	271	69	443
1956	112	288	74	474
1957	118	332	85	535
1958	186	363	80	629
1959	280	470	72	822
1960	330	554	69	953
1961	429	621	72	1,122
1962	470	719	77	1,266

*Includes expenditures on hospital, medical, dental and allied services, general and public health, the construction of health facilities, research and education but excludes sanitation and waste removal. Federal and provincial expenditures are for fiscal years and are not directly comparable with the data presented in Table 11-23.

†Excludes sanitation and waste removal.

SOURCE: Hanson, E, J., *The Public Finance Aspects of Health Services*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964, from Table B-1.

TABLE 11-26 PERCENTAGE DISTRIBUTION OF GOVERNMENT NET GENERAL EXPENDITURES ON HEALTH SERVICES, BY LEVEL OF GOVERNMENT, CANADA, SELECTED YEARS, 1947-1962

Year	Federal	Provincial	Municipal	Total
1947	33.3	50.9	15.8	100.0
1953	25.0	60.7	14.3	100.0
1955	23.3	61.1	15.6	100.0
1957	22.0	62.0	16.0	100.0
1958	30.0	57.7	12.3	100.0
1961	38.3	55.3	6.4	100.0
1962	37.1	56.9	6.0	100.0

SOURCE: Based on Table 11-25.

Programme in 1958. Until that date municipal governments continued to account for approximately the same proportion of total spending but the provincial governments accounted for an increasing share. By 1957, the federal share of total health expenditures had risen to $118 million but as a proportion of total spending it had declined to 22 per cent. In the same period provincial expenditures rose to $332 million and amounted to 62 per cent of all government expenditures. Even the rapid expansion of federal government expenditures during the period 1958-62 has still left the provinces with the greatest share of public health expenditures (56.9 per cent in 1962) primarily because the Federal Government does not share in the cost of hospitalization for tuberculous patients and the mentally ill who constitute a great proportion of all hospitalized patients.

INTERNATIONAL COMPARISON

We have presented in previous chapters a comparison of health services provided among different countries using for purposes of illustration ratios of population per physician, per dentist, per nurse, per pharmacist and per hospital bed.[1] The ratios discussed in these chapters illustrate the relative importance which Canadians have placed in obtaining professional

TABLE 11-27 ESTIMATED EXPENDITURES ON SELECTED ITEMS* OF PERSONAL HEALTH CARE† AS PERCENTAGE OF GROSS NATIONAL PRODUCT AT MARKET PRICES, NINE COUNTRIES, 1953-1961

Country	1953	1954	1955	1956	1957	1958	1959	1960	1961
Canada	2.50	2.77	2.77	2.74	2.95	3.11	3.37	3.60	3.85
United States	2.31	2.76	2.75	2.88	2.97	3.21	3.21	3.34	3.46
New Zealand	3.10	3.00	3.07	3.22	3.25	3.33	3.36	3.41	3.59
Australia	2.72	2.86	2.94	2.91	3.12	3.24	3.35	3.71	4.06
United Kingdom	2.58	2.56	2.61	2.63	2.66	2.74	2.81	3.00	2.98
France	2.18	2.28	2.38	2.48	2.56	2.64	2.78	2.94	3.28
Norway	2.25	2.22	2.22	2.20	2.39	2.52	2.69	2.72	2.71
Denmark	1.91	2.03	2.10	2.14	2.24	2.36	2.40	2.41	2.42
Netherlands	1.71	1.78	2.02	2.10	1.94	2.12	2.18	2.15	2.32

*Includes hospital services, physicians' services, and prescribed drugs. Excludes dentists' services.

†Excludes expenditures on public health and for capital purposes.

SOURCE: Special estimates prepared by the Research and Statistics Division, Department of National Health and Welfare.

[1] For a discussion of ratios of population per physician, dentist, nurse and pharmacist, see Chapter 7, and for a discussion of the ratios of population per hospital bed, see Chapter 8.

TABLE 11-28 ESTIMATED EXPENDITURES ON SELECTED ITEMS* OF PERSONAL HEALTH CARE† AS PERCENTAGE OF GROSS NATIONAL PRODUCT AT MARKET PRICES, SIX COUNTRIES, 1953-1961

Country	1953	1954	1955	1956	1957	1958	1959	1960	1961
Canada	2.74	3.04	3.02	3.01	3.22	3.41	3.66	3.91	4.17
United States	2.65	3.15	3.13	3.27	3.36	3.62	3.60	3.73	3.86
New Zealand	3.35	3.24	3.32	3.48	3.51	3.57	3.60	3.63	3.81
United Kingdom	2.78	2.77	2.84	2.86	2.90	2.98	3.07	3.26	3.25
Norway	2.73	2.69	2.69	2.64	2.83	2.98	3.15	3.17	3.16
Netherlands	1.90	1.98	2.23	2.31	2.11	2.37	2.42	2.50	2.57

*Includes hospital services, physicians' services, prescribed drugs, and dentists' services.
†Excludes expenditures on public health and for capital purposes.
SOURCE: Special estimates prepared by the Research and Statistics Division, Department of National Health and Welfare.

health personnel in relation to population and in providing health capital facilities in terms of hospital beds as Canada stands high in comparison with any other country in the provision of health facilities and personnel. To round out this comparison we require a means of relating the total health efforts of Canada to the country's ability to produce goods and services. This we can achieve by comparing total health expenditures with Gross National Expenditures. Comparable data on this basis were obtainable for nine out of the nineteen countries for which personnel data are available and they are presented in Table 11-27. The latter data show that Canada devotes a greater proportion of her total national output to health services than any other of the nations surveyed exceeded only by Australia. The data support the conclusions, which we have presented earlier based on evidence submitted to us in briefs and in the hearings together with personal observations which we were able to make, that Canada's health services are by and large of a very high standard and compare favourably with the best of such services provided in other countries.

In making an international comparison of health expenditures to Gross National Expenditure we have to bear in mind the limitation of such a comparison resulting largely from the difficulties of obtaining fully comparable data. In the less developed countries health services may be provided in the household sector rather than in the market sector of the economy and monetary outlays may significantly underestimate the level of health care. Again comparisons that involve expenditures on a limited number of health services may not be fully indicative since the provision of services may be undertaken by different health personnel in different countries. Thus a country which provided medical care through the services of salaried public health physicians might appear to be spending a very small amount on medical care if a comparison is limited to non-government expen-

ditures. Where comparisons are made for any single year, these also must be treated with caution, since if the introduction of an additional public programme were to occur when the national income was at a level lower than usual, a country might appear to be spending a large proportion of GNE on health when over the long run this may not necessarily be so. Even in developed countries, a continuing difference between the proportion of current Gross National Expenditure allocated to health services in two countries may not mean that there are significant differences between their utilization of health services since the structure of prices in the two countries may differ widely.[1]

Bearing these qualifications in mind, in terms of the proportion of GNE allocated to health, Canada ranks among the highest for those countries for which we possess data. Tables 11-27 to 11-29 indicate the amounts of

TABLE 11-29 EXPENDITURES ON HEALTH CARE AS A PERCENTAGE OF GNE, SIX COUNTRIES, 1956-1961

Country	Year	Currency	Expenditures on Health Care*	GNE	Percentage of GNE
Canada	1960-61	$ m	2,120	36,837	5.8
Ceylon	1957-58	Rs. m	227	5,725	4.0
England and Wales	1960-61	£ m	956	20,370	4.7
Israel	1959-60	£ m	240	4,716	5.1
Sweden	1956	K m	2,289	49,106	4.7
United States	1960-61	$ m	28,740	522,500	5.5

*Health care expenditures for individual countries may differ slightly in what is included. All exclude expenditures on nutrition but all include expenditures on non-prescribed drugs and pharmaceuticals.

SOURCE: Abel-Smith, B., "Health Expenditure in Seven Countries", *London and Cambridge Economic Bulletin*, March 1963; and Madden, J. J., *Economics of Health*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

[1] This becomes clear if we consider the following situation. In country A, 1,000 professional men provide services worth $1,000 a year and expenditures on these services would amount then to $1 million. In country B, there are 2,000 professional men who each provide the same amount of service as in A, but because of the larger number of professional men, the average price of service is lower and each professional man receives an income of $500. In this case total expenditures on health services would be the same as in country A but the volume of service would be twice as large. Over time, international mobility of professional men would tend to reduce some of the differences in incomes, and thus prices, between the two countries; but such differences could persist for long periods of time. See Gilbert, Milton, and Kravis, I. B., *An International Comparison of National Products and Purchasing Power of Currencies*, O.E.E.C., 1954; Gilbert, Milton, and Associates, *Comparative National Products and Price Levels*, O.E.E.C., 1958, p. 61. In 1950, the price of health services was relatively cheaper in almost all European countries than in the United States.

GNE allocated to various categories of health services, and although the percentage differences in many cases are small, Canada ranks first or second in all tables for recent years.

Table 11-27 indicates the proportion of GNE spent on hospital services, physicians' services and prescribed drugs for a number of developed countries for the years 1953-61.[1] In 1953, the range of expenditures was from 1.71 per cent to 3.10 per cent, with Canadian expenditures amounting to 2.5 per cent. New Zealand ranked first; Australia, second; the United Kingdom, third; Canada, fourth; the United States, fifth; and the Netherlands. By 1958 each country was spending a larger proportion of GNE on these services while the range of expenditures was from 3.33 to 2.12 per cent. The order of spending was New Zealand, Australia, United States and Canada with the Netherlands still last. By 1961, the proportion spent on health continued to rise with a range of 4.06 to 2.32 per cent. Australia ranked first; Canada, second; New Zealand, third; United States, fourth, and again the Netherlands was last.

There are a number of trends evident in the data. Canada, while always near the top in the proportion of GNE allocated to these health services has been expanding its outlays more rapidly than some other countries and has moved closer to the highest country. Second, the differences between the top five countries are barely .75 per cent. Thirdly, the only country which experienced a decline in the percentage spent on health is the United Kingdom. Finally, there is some difference between the proportions if the countries are divided into North America and Australia and New Zealand compared with European countries, the former being in the top half of the expenditure table. Table 11-28 differs from 11-27 in that the latter table includes expenditures on dental services. Much the same pattern has developed here except by 1961, Canada ranked first with 4.17 per cent followed by the United States and New Zealand but the differences are not very great.[2]

Table 11-29 gives for the years 1956 to 1961, the proportion of Gross National Expenditure spent not only on personal health services but also for non-prescribed drugs, government health services and construction for a number of countries. It is apparent again, that except for Ceylon, all fall within almost a one per cent range 4.7 to 5.8 per cent, with Canada the highest at 5.8 per cent, followed by the United States with 5.5 per cent, Israel with 5.1 per cent, England and Sweden with 4.7 per cent and Ceylon with 4

[1] The estimates have been prepared by the Research Division, Department of National Health and Welfare on the basis of special correspondence with the respective governments. In each instance these data were supplemented with material from other sources and in some cases the amount of estimation is considerable. The data should therefore be considered as preliminary estimates.

[2] Data on dental expenditures for Australia are not available. Data on population per dentist ratios suggest that Australia is ahead of Canada with respect to total health expenditures including expenditures on dental services to GNE.

TABLE 11-30 EXPENDITURES ON HEALTH AND MEDICAL CARE, BY SOURCE OF FUNDS, UNITED STATES, SELECTED YEARS 1929-1963*

Year	Total Medical and Hospital Care					Total Medical and Hospital Care†					Construction Expenditures				
	Public Expenditures		Private Expenditures		Total Expenditures	Public Expenditures		Private Expenditures		Total Expenditures	Public Expenditures		Private Expenditures		Total Expenditures
	$ '000,000	%	$ '000,000	%	$ '000,000	$ '000,000	%	$ '000,000	%	$ '000,000	$ '000,000	%	$ '000,000	%	$ '000,000
1929	314	9.4	3,010	90.6	3,324	—	—	—	—	—	99	49.3	102	50.7	201
1935	516	16.7	2,570	83.3	3,086	—	—	—	—	—	38	79.2	10	20.8	48
1940	654	17.9	2,992	82.1	3,646	—	—	—	—	—	55	64.0	31	36.0	86
1945	1,890	26.3	5,305	73.7	7,195	—	—	—	—	—	68	69.4	30	30.6	98
1950	2,354	21.1	8,827	78.9	11,181	—	—	—	—	—	585	73.1	215	26.9	800
1953	3,125	21.7	11,270	78.3	14,395	—	—	—	—	—	545	66.1	280	33.9	825
1955	3,475	20.9	13,130	79.1	16,605	—	—	—	—	—	386	54.3	325	45.7	711
1956	3,638	20.2	14,399	79.8	18,037	—	—	—	—	—	361	54.4	302	45.6	663
1957	3,851	19.7	15,693	80.3	19,544	—	—	—	—	—	478	55.1	389	44.9	867
1958	4,269	20.1	16,953	79.9	21,222	—	—	—	—	—	507	49.9	509	50.1	1,016
1959	4,882	21.1	18,238	78.9	23,120	—	—	—	—	—	606	55.0	495	45.0	1,101
1960	4,874	19.8	19,759	80.2	24,633	4,874	21.5	17,812	78.5	22,868	557	51.9	516	48.1	1,073
1961	5,330	19.9	21,340	80.1	26,670	5,330	21.6	19,340	78.4	24,670	595	52.4	540	47.6	1,135
1962	5,910	20.5	23,075	79.5	28,985	5,910	22.0	20,975	78.0	26,885	645	53.1	570	46.9	1,215
1963	6,399	20.7	24,500	79.3	30,899	6,399	22.3	22,299	77.7	28,698	649	44.8	800	55.2	1,449

TABLE 11-30 EXPENDITURES ON HEALTH AND MEDICAL CARE, BY SOURCE OF FUNDS, UNITED STATES, SELECTED YEARS, 1929-1963*—*Concluded*

Year	Research Expenditures‡	Public Health Expenditures	All Health Expenditures					All Health Expenditures†				
			Public Expenditures		Private Expenditures		Total Expenditures	Public Expenditures		Private Expenditures		Total Expenditures
	$ '000,000	$ '000,000	$ '000,000	%	$ '000,000	%	$ '000,000	$ '000,000	%	$ '000,000	%	$ '000,000
1929	—	100	513	14.2	3,112	85.8	3,625	—	—	—	—	—
1935	—	124	678	20.8	2,580	79.2	3,258	—	—	—	—	—
1940	3	180	892	22.8	3,022	77.2	3,915	—	—	—	—	—
1945	17	223	2,198	29.2	5,335	70.8	7,533	—	—	—	—	—
1950	55	328	3,322	26.9	9,042	73.1	12,364	—	—	—	—	—
1953	88	322	4,080	26.1	11,550	73.9	15,630	—	—	—	—	—
1955	106	316	4,283	24.1	13,455	75.9	17,738	—	—	—	—	—
1956	116	368	4,482	23.4	14,701	76.6	19,183	—	—	—	—	—
1957	183	414	4,926	23.4	16,082	76.6	21,008	—	—	—	—	—
1958	237	349	5,363	23.5	17,462	76.5	22,825	—	—	—	—	—
1959	300	419	6,207	24.9	18,733	75.1	24,940	—	—	—	—	—
1960	392	406	6,229	23.5	20,275	76.5	26,504	6,229	25.4	18,328	74.6	24,557
1961	510	425	6,860	23.9	21,880	76.1	28,740	6,860	25.7	19,880	74.3	26,740
1962	665	450	7,670	24.5	23,645	75.5	31,315	7,670	26.3	21,545	73.7	29,215
1963	938	495	8,481	25.1	25,300	74.9	33,781	8,481	26.9	23,099	73.1	31,580

*For years ending June 30.
†Excludes expenditures on non-prescribed drugs and pharmaceuticals.
‡Predominantly public expenditures.

SOURCE: U. S. Department of Health, Education and Welfare, *Medical Care Financing and Utilization*, 1962; *Health Education and Welfare Indicators*, 1960-1963; *Social Security Bulletin*, December, 1962.

TABLE 11-31 PRIVATE AND PUBLIC EXPENDITURES ON HEALTH AND MEDICAL CARE, UNITED STATES, SELECTED YEARS, 1929-1963*

Year	Total Medical and Hospital Care†	Public Health	Construction Expenditures‡	Research[a]	All Health Expenditures			Excluding Non-Prescribed Drugs and Pharmaceuticals		
					Total Expenditures	Per Capita Expenditures	Percentage of GNE	Total	Per Capita	Percentage of GNE
	$ '000,000	$ '000,000	$ '000,000	$ '000,000	$ '000,000	$		$ '000,000	$	
1929	3,324	100	201	—	3,625	29.77	3.6	—	—	—
1935	3,086	124	48	—	3,258	25.58	4.7	—	—	—
1940	3,646	180	86	3	3,915	29.53	4.1	—	—	—
1945	7,195	223	98	17	7,533	53.63	3.5	—	—	—
1950	11,181	328	800	55	12,364	81.20	4.7	—	—	—
1953	14,395	322	825	88	15,630	97.58	4.7	—	—	—
1955	16,605	316	711	106	17,738	106.90	4.7	—	—	—
1956	18,037	368	662	116	19,183	113.57	4.7	—	—	—
1957	19,544	414	867	183	21,008	122.15	4.9	—	—	—
1958	21,223	349	1,016	237	22,825	130.52	5.2	—	—	—
1959	23,120	419	1,101	300	24,940	140.25	5.3	—	—	—
1960	24,633	406	1,073	392	26,504	146.69	5.4	24,557	135.90	4.89
1961	26,670	425	1,135	510	28,740	156.41	5.5	26,740	145.65	5.16
1962	28,985	450	1,215	665	31,315	166.75	5.6	29,180	156.56	5.26
1963	30,899	495	1,449	938	33,781	178.64	5.8	31,580	167.98	5.45

*For years ending June 30.
†Includes expenditures on non-prescribed drugs and pharmaceuticals as well as all personal health care.
‡Includes public and private expenditures.
[a]Includes all medical research—predominantly public expenditures.

SOURCE: See Table 11-30.

per cent. The high ratio indicated for Canada is partly due to the particular years available for comparison. If the year chosen had been 1959, Canadian expenditures including non-prescribed drugs and pharmaceuticals likely would not have exceeded 5 per cent and would have been less than that of the United States. For those countries where the data relate to early periods there is little doubt that by 1961 they were spending a larger proportion on health which, in the case of Sweden might be considerable.

Subject to the limitations discussed above, it appears that countries which have a high standard of living have tended to spend roughly a similar proportion of total spending on health care and that the range of spending is surprisingly small varying by about one percentage point around an average value which has been slowly rising over time, and this despite the different techniques used to finance health care—particularly the varying relative importance of the public and the private sector.

Health Expenditures: Canada and United States

Tables 11-30 to 11-33 present the American data on which a comparison can be made with Canadian experience. The most striking aspect of these statistics is of course the magnitude of American expenditures which, in 1962, were the equivalent of 84 per cent of Canada's GNE. In all likelihood, the State of California alone, which now has nearly the same population as Canada, and whose average real per capita income is higher, spends as much for health care as does all of Canada.

TABLE 11-32 TREND RATE OF GROWTH OF SPENDING ON HEALTH, UNITED STATES, SELECTED PERIODS, 1929-1963

(percentages)

Period	Total Medical and Hospital Care*		Public Health	Construction	Research	All Health Expenditures	
	Total	Per Capita				Total	Per Capita
1929-45	5.0	4.0	5.2	−4.6	19.4	4.6	3.8
1945-61	8.5	5.7	4.2	16.5	23.7	8.8	6.9
1929-61	6.8	4.8	4.6	5.6	21.6	6.7	5.3
1957-61	8.0	—	0.6	6.9	29.1	8.1	6.3
1957-63	7.9	—	3.2	8.9	31.3	8.2	6.6

*Includes expenditures on non-prescribed drugs and pharmaceuticals.

SOURCE: Table 11-31.

Between 1929 and 1963 expenditures in the United States rose from $3,625 million to $33,781 million or almost tenfold; while on a per capita basis the increase was from $30 to $179 or nearly sixfold. Excluding non-prescribed drugs and pharmaceuticals, expenditures in 1963 amounted to $31,580 million or $168 per capita. Of these amounts, hospital, medical and other personal health services accounted for the greatest proportion in 1963, $30,899 million; public health expenditures amounted to $495 million; research expenditures to $938 million and construction expenditures to $1,449 million. In terms of proportion of GNE allocated to health services, Table 11-31 indicates that an increasing proportion of total spending has been used for this purpose rising from 3.6 per cent in 1929 to 5.8 per cent in 1963. Excluding non-prescribed drugs and pharmaceuticals the increase was from approximately 3.1 per cent to 5.4 per cent of GNE. Finally the proportion of health expenditures met from public sources is indicated in Table 11-30 where the proportion of expenditures on personal health care financed publicly rose from 9.4 per cent to 20.7 per cent between 1929 and 1963 while public expenditures for all health items rose from 14.2 per cent to 25.1 per cent in the same period. If non-prescribed drugs and pharmaceuticals are excluded from health expenditures, the public share amounted to 25.7 per cent in 1961 and rose to 26.9 per cent in 1963.

Although public financing of health services has been far more important in Canada than in the United States in recent years the pattern of health expenditures in the two countries has been remarkably similar. If we compare the trend rate of growth of personal health expenditures of the two countries it is found that in the United States, during the period 1929-61, spending on all such health services rose at a trend rate of 6.8 per cent a year while Canadian expenditures in the period 1926-61 rose at a trend rate of 6.7 per cent.[1] On a per capita basis the trend rate of growth of spending was 4.8 per cent a year in the United States and 4.7 per cent a year in Canada.

Finally, Table 11-33 provides a comparison of per capita expenditures on various categories of health spending as a proportion of total output. Although the estimated expenditures on drugs and pharmaceuticals in 1929 is only an approximate figure, including such expenditures, Canadians spent about 3.5 per cent of GNE in that year for personal health care compared with 3.3 per cent in the United States.[2] In 1961, Canadians spent approximately 5.2 per cent of GNE compared to 5.1 per cent in the United States. If expenditures on non-prescribed drugs and pharmaceuticals are excluded, Canadians in 1961 spent a smaller proportion of GNE on personal health

[1] See Tables 11-17 and 11-32.

[2] This latter figure includes non-prescribed drugs and pharmaceuticals, the Canadian estimate includes only prescribed drugs.

TABLE 11-33 PER CAPITA EXPENDITURES ON HEALTH CARE AND PERCENTAGE OF GNE, BY SELECTED CATEGORIES OF HEALTH EXPENDITURES, CANADA AND THE UNITED STATES, SELECTED YEARS, 1929-1963

Year	Personal Health Services				Personal Health Services			
	Canada				United States			
	Excluding Non-prescribed Drugs and Pharmaceuticals*		Including Non-prescribed Drugs and Pharmaceuticals		Excluding Non-prescribed Drugs and Pharmaceuticals		Including Non-prescribed Drugs and Pharmaceuticals	
	Per Capita Expend.	Percentage of GNE	Per Capita Expend.	Percentage of GNE	Per Capita Expend.	Percentage of GNE	Per Capita Expend.	Percentage of GNE
	$		$		$		$	
1929	19.10	3.5	—	—	—	—	27.29	3.3
1945	24.26	2.5	—	—	—	—	51.20	3.3
1953	51.67	3.1	—	—	—	—	90.20	4.3
1959	81.20	4.1	—	—	—	—	—	—
1961	94.52	4.6	106.03	5.2	134.36	4.8	145.26	5.1
1963†	—	—	—	—	151.76	5.0	163.40	5.3
	All Health Expenditures‡				All Health Expenditures[a]			
1929	—	—	—	—	—	—	29.77	3.6
1945	27.51	2.8	—	—	—	—	53.63	3.5
1953	63.54	3.8	—	—	—	—	97.58	4.7
1959	95.21	4.8	—	—	—	—	140.25	5.3
1961	110.03	5.4	121.54	5.9	145.65	5.2	156.41	5.5
1963[a]	—	—	—	—	167.98	5.4	178.64	5.8

*Includes estimated expenditures on prescription drugs. Excludes general public health expenditures.

†Estimated.

‡Excludes expenditures on research and education of health personnel.

[a]Includes expenditures on research.

SOURCE: Based on Tables 11-2, 11-6 and 11-31.

services than the United States; 4.6 per cent compared to 4.8 per cent.[1] Canadian expenditures on all health care are not available for 1929 but were likely less than American expenditures which amounted to 3.6 per cent. In 1961, Canadian expenditures on all health items amounted to 5.4 per cent of GNE compared to 5.2 per cent of GNE in the United States while if

[1] Estimates of expenditures on non-prescribed drugs and pharmaceuticals are subject to a greater degree of error than most other estimates. Accordingly, American expenditures could be somewhat larger and Canadian spending somewhat less.

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non-prescribed drugs and pharmaceuticals are included as a health expenditure, Canadians spent 5.9 per cent of GNE on health and Americans 5.5 per cent.

It must be noted that it is only in the last few years that Canadian spending on personal health services again has approached the proportion spent in the United States; that it is only because of the slower rate of growth of public health expenditures and capital construction in the United States in the nineteen fifties that Canadian total spending as a percentage of GNE has surpassed that of the United States; and that in dollar terms, Americans have always spent more than Canadians and continued to do so in 1961 when American per capita expenditures amounted to $156 compared with $121 in Canada.

Through most of the period 1926-61, Americans appear to have spent a slightly larger proportion of GNE on health services than Canadians. And, as is to be expected, a nation with a standard of living somewhat higher on the average than Canada, spent larger absolute sums for each person. Thus in 1961, when Canadians were spending a larger proportion of GNE on personal health services and prescribed drugs, per capita expenditures in the United States amounted to $145 compared to $110 in Canada. Moreover, there has been a substantial increase in spending in the United States in the period 1961-63 so that, again excluding non-prescribed drugs and pharmaceuticals, the likelihood is that in 1963 the proportions will not differ substantially one from the other, amounting to between 5.4 and 5.6 per cent of GNE.[1] The particularly rapid growth of Canadian spending on health again, to a large extent, reflects the fact that American expenditures increased more rapidly than Canadian expenditures in the pre-war and wartime period, and the rapid growth of Canadian expenditures in the post-war period has done little more than re-establish the relationships that existed in the pre-depression years.

HEALTH EXPENDITURE TRENDS IN PERSPECTIVE

We have examined the trends in Canadian health spending, along with the trends in health expenditures in other countries and we have seen that the Canadian experience has not been significantly different from that of other nations of comparative wealth, tastes and government organization. We recognize that the growth of spending has been rapid and that health services command a very substantial sum of money each year. On the other

[1] See Table 11-33. In 1963, estimated American expenditures on personal health services amounted to 5.4 per cent of GNE excluding non-prescribed drugs and pharmaceuticals, including these the estimated percentage is 5.8.

hand, we have indicated that in the perspective of time and total Canadian spending, expenditures on health care have not been out of the ordinary; they have not commanded a very substantial share of total output despite the subsidy granted to these services and in recent years there has been a tendency for the rate of growth of spending on health to slow down to a rate comparable with other categories of spending. This trend has been affected to some extent by the introduction of the Hospital Insurance Programme. But increasingly, health expenditures have grown because the per capita consumption of health services has risen and less because the prices of health services have increased. It has taken many years to raise the level of health spending in real terms back to what it was before the great depression. It has taken public policy to raise the consumption of health services—particularly hospital services—of the relatively less well-off to the level enjoyed by those with higher incomes. We expect, however, that this rapid rate of growth will slow down in the future as more and more Canadians achieve the level of consumption of health services needed to keep them active, productive and able to enjoy the benefits of their increasing real incomes. When that day arrives, as it may in the not too distant future, health expenditures will grow at a trend rate determined primarily by the growth of population and the discoveries of science that make improved health care possible. Our estimate of what will be the trend rate of growth of spending on health in the next decade and over the next generation we leave until Chapter 19.

12

Economic Benefits of Health Services

Although the proportion of income spent on health services has not increased substantially over the past generation, the absolute size of these expenditures has led some people to ask whether or not the allocation of so large a sum to health might not affect the rate of economic growth in Canada. We wish to emphasize before we examine this question that economic growth is not the sole aim of our society and, given the growing wealth of Canada, that economic considerations should not solely be used to deny to individuals the health services needed to alleviate illness and disability and to extend life expectancy. Although we recognize that resources are limited, and individuals cannot expect to receive unlimited amounts of health care, the value of human life must be decided without regard to whether the person is a producer or not. Health services must not be denied to certain individuals simply because the latter make no contribution to the economic development of Canada or because he cannot pay for such services. Important as economics is we must also take into account the human and spiritual aspects involved.[1]

HEALTH SERVICES AND ECONOMIC GROWTH

To answer the question whether the economic health of our nation has been adversely affected by increasing efforts devoted to further the health of individual citizens requires us to specify what we mean by economic growth and to define the function that health services play in our economy.

If increases in the total output of goods and services or Gross National Product, are considered to be a measure of economic growth then clearly the health services industry, by adding to total output, has generated economic growth in the same way as the agricultural industry, the automobile industry, the pulp and paper industry or the iron and steel industry. We have already indicated the contribution of the health services industry to the value of total output, and particularly its increase in the past few years when many other industries have either expanded only slowly or even stagnated. Professor T. M. Brown's economic study has documented this development;[2] par-

[1] See Chapters 3 and 5.

[2] Brown, T. M., *Canadian Economic Growth*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

ticularly the tapering off in the investment boom of the mid-fifties, the multiplication of external sources of supply for many commodities that Canada produces and the intensified competition felt even in the domestic market. The noticeable retardation of the rate of growth of output in the agricultural and manufacturing sectors, consequent on these developments, was alleviated to a considerable extent by the growing output of service industries. The continued high level of demand from individuals, families and business firms for financial, government, educational, and particularly health services has contributed substantially to maintaining the level of output and without this expansion the national income would have been considerably smaller. Nor should it be forgotten that the service industries also use substantial amounts of capital, particularly buildings. Thus the investment component of the national product has also been maintained at a higher level than it otherwise would have been. The growth of the output of the health services industry was accompanied by an increase in output of the construction, electrical machinery, hospital supply and the pharmaceutical industries to name but a few.

EMPLOYMENT EFFECTS OF HEALTH SERVICES

We wish also to emphasize the role of the health services industry in creating employment, both directly as an employer of professional, skilled, semi-skilled, and unskilled manpower, and indirectly through the demand of the industry for the output of other sectors of the economy. While the recent upward trend in the proportion of output contributed by the service sector of the economy has not proceeded long enough to indicate whether it will continue to account for an increasingly larger share of total output, it seems that in order to produce the same proportion of output in a growing economy, an increasing proportion of the labour force must be allocated to this sector. This does not mean that productivity has not increased in the service sector. As we have pointed out in Chapter 11, substantial increases in productivity have been achieved in the health services industry but this has been offset to a large extent by changes in technology that require more personnel. The manpower requirements of the services industry have been so substantial that although employment has declined in the agricultural sector of the economy and failed to grow in much of the manufacturing sector, unemployment has been held down by the expansion of employment in the service sector.

The health industry both public and private, has always made a substantial contribution to the absorption of Canada's growing labour force. Even in the relatively depressed period 1931-41, employment grew at a trend rate of 3.3 per cent compared with 2.6 per cent for the total labour force. Between 1941 and 1961 when the labour force rose by 1.5 to 2 per cent a

year, employment in the health services industry increased at an annual average rate of between 5 and 6 per cent, with the most rapid rate of growth being achieved in the nineteen fifties.[1] Over the whole period 1931 to 1961 full-time and part-time employment in the health sector rose from 68,000 to 281,000, an average annual increase of 6 per cent while the total labour force was increasing at around 2.2 per cent. In this thirty-year period, the proportion of health workers rose from 1.9 per cent of the labour force to 4.3 per cent of the labour force.[2] Although the industry has always continued to employ a good many more women than men; in the professional fields, medicine, dentistry, etc., men outnumber women to a considerable extent. In over-all terms in 1961 some 76,000 males were employed in medical, dental, hospital and other health activities along with 205,000 female employees and professional self-employed, for a total of 281,000.

One outstanding feature of the employment situation in the health industry is the rapid increase in the job opportunities for women, particularly for part-time work. While male employment rose by 26,000 to 76,000 in the decade before 1961, female employment in hospitals, physicians' and dentists' offices rose by 98,000 to 205,000. As a consequence the growth of the industry has taken place, to a large extent, by absorbing new additions to the female labour force or by using the part-time services of married women, many of whom were registered nurses. It follows then that much of the expansion took place without depriving other sectors of the economy of scarce labour resources and slowing down the rate of growth elsewhere. It is true that the growth of the supply of physicians and other professional personnel might indicate that highly intelligent and able individuals were drawn from other productive sectors of the economy but the increased supply, to a significant extent, was generated by immigration and Canada benefited by attracting professional people. In these cases, a large part of the costs involved in training these professionals were borne by other nations. In short, expansion has taken place largely at the expense of unemployment (actual or underemployment in the home) rather than at the expense of other output these Canadians might have produced.[3] The hospital industry has been especially efficient in using the services of part-time female workers and the incomes of many Canadian families, both in the rural and urban parts of Canada, have been raised well

[1] See Table 12-1.

[2] See Table 12-1. It should be noted that this includes only those professional and non-professional workers who were directly employed in the industry. It does not include those workers employed in the production of drugs, glasses etc., the construction of hospitals and many aspects of public and private health administration. If expenditures on these health items were excluded from total expenditures *real* expenditures on health would not exceed 4.5 per cent of GNE, not a high proportion relative to employment in view of the number of professionals employed.

[3] It cannot be said that the education industry was starved for skilled resources by the employment of large numbers of women in the health industry since the higher earnings of education failed to attract them to that occupation.

TABLE 12-1 EMPLOYMENT IN THE HEALTH SERVICES INDUSTRY AS A PERCENTAGE OF THE TOTAL LABOUR FORCE, CANADA, SELECTED YEARS, 1931-1961

Year	Male			Female			Total				
	Labour Force	Employed in the Health Industry	Percentage Employed in Health Industry	Labour Force	Employed in the Health Industry	Percentage Employed in Health Industry	Labour Force	Employed in the Health Industry	Percentage Employed in Health Industry	Trend Rate of Growth of Labour Force	Trend Rate of Growth of Employment in Health Industry
	'000,000	'000,000		'000,000	'000,000		'000,000	'000,000		Per Cent	Per Cent
1931	3.3	.024	0.74	.24	.044	18.3	3.57	.068	1.9	—	—
1941	3.7	.031	0.84	.83	.063	7.6	4.53	.094	2.1	2.6	3.3
1951	4.1	.050	1.21	1.16	.107	9.1	5.26	.157	3.0	1.6	5.2
1961	4.7	.076	1.61	1.78	.205	11.1	6.48	.281	4.3	2.0	6.0

SOURCE: Based on Dominion Bureau of Statistics, Census of Canada, 1931, 1941, 1951 and 1961, Ottawa: Queen's Printer. Includes only those employed directly in the health industry.

above the subsistence level through the contributions of a wife with a registered nurse's diploma. Nor should it be forgotten that many a professional man has financed his education with the assistance of a wife employed part- or full-time in a hospital.

Automation and changes in technology have had their effect on employment in Canada as has the deficiency of demand. It is not our task to decide which of these factors is more significant than the other in contributing to rising levels of unemployment. What is clear is that the growth of government and private spending for the output of the health services industry has enabled the Canadian economy to move along a growth path that is higher than it otherwise would have been. The demand for goods and services has more adequately measured up to the growth of potential supply, and thus made possible a closer approximation to the optimum growth path and a higher level of employment than would otherwise be the case. It has provided employment for large numbers of people who likely would otherwise be unemployed or not part of the labour force. It has created employment for other sectors as well. Male employment rose particularly in the building trades through the construction of hospital and medical buildings as well as the houses that two-income families purchased, and in many of the other industries which benefited from increased expenditures on health services and health capital facilities.

HEALTH SPENDING—CONSUMPTION OR INVESTMENT

Goods and services can be divided broadly into two classes: those from which individuals and families derive immediate satisfaction and which are called consumption, and those which are used to provide consumption at some future date and which are called investment. It might appear that the classifications which we attach to health services is unimportant and that it matters little in what category they are placed. This is not so since the type of expenditures may have significant effects for policy decisions. If the objective of a society is economic growth, and economic growth is now defined not only as an increase in a nation's output but also as greater output per unit of input—increased productivity—then the question becomes, what will lead to an increase both in output and productivity? What will enable more goods and services to be produced in the future than are produced today? What will permit more output to be produced in the future with the same volume of resources?

Now, if economic growth is defined in this way, and if it is assumed that growth takes place purely as a function of adding to physical capital, machines, buildings and inventories, then it may be implied that resources allocated to the production of health services are consumption and not

investment and thus make no contribution to economic growth. Moreover, if resources are fully utilized elsewhere the expansion of health services may even limit economic growth by taking resources from investment industries. On the other hand, if economic growth also depends on the *number* and *quality* of the population, then many non-material things, particularly health services and educational services may be classed as investment since they either increase the supply of labour or improve its quality, both of which lead to a higher rate of economic growth and more consumption in the future than otherwise could be obtained.

It is not our intention to enter into a technical discussion of the factors which lie behind economic growth. These are set out in detail in the studies prepared for us and they are summarized in Chapter 19. Yet because of the link between the provision of health services, the growth and quality of the population and the rise of total and per capita national output, it is necessary briefly to discuss what these relationships are.

Economic growth does not depend solely on capital goods, tools and construction works, but also on the natural environment and its resources, the stock of labour, knowledge and technology. It is influenced by the extent of the market and the degree to which this permits specialization and the use of large-scale technology. Providing that the demand for goods and services is adequate and measures up to the growth of supply, an economy can achieve a high rate of growth if the supply of capital and labour grows rapidly, and resources and/or technology are abundant. It is evident that population growth is doubly important as a factor related to growth since it is the source of labour supply in the productive system and is also the basis of most of the demand for the output of the system.

The distinction between capital goods and labour is one, however, which is becoming increasingly difficult to maintain. Our own and other studies of economic growth have emphasized that economic growth is not solely to be attributed to additional amounts of labour and capital but also to changes in the human factor, organization, and technology. *A nation's wealth consists not only of structures, machines, inventories and resources, but also of its human capital, the productive skills, knowledge and creative genius of its people. It is the quality of human beings, their energy, ability, attitudes, education and training which make possible the expansion of technological and managerial knowledge which increasingly yield economic progress in the modern world. To the extent that a nation, either individually or collectively, increases investment in human capital either by improving the physical and mental well-being of the population, or by providing increasing amounts of higher education, on-the-job training and re-training for those whose skills become obsolete, so will it have contributed to the growth of per capita output with all that this entails.*

We wish, therefore, to emphasize strongly that not all, or even the greater part, of expenditures on health services are consumption; they are not solely a cost to the individual or society since they may yield substantial economic benefits; they are investment expenditures. It is true that the conventional measurement of the national income or product considers expenditures on health services, like those for food, clothing and education, as outlays for final products, and therefore, as consumption. It is also true that in one sense we have agreed with this classification since we believe that good health directly benefits individual welfare by improving the quality of living. But since health expenditures have led to a reduction of disability and illness for people in the productive ages and to a lengthening of life generally, in many cases benefits have more than outweighed their costs.

Unlike many developing nations where the acceleration of population growth has tended to keep the majority of people living at a bare subsistence level, Canada has been able to increase its population and to achieve a rising standard of living in the form of increased consumption of goods and services. This has been particularly so since the end of World War II. In some years the upward trend was halted, but over the period as a whole a definite improvement has taken place. Personal expenditures per capita in real terms rose from $840 in 1946 to $1,032 in 1962 or by 23 per cent. Rather than being subject to diminishing returns, the Canadian economy as a whole is, in all probability, continuing to experience increasing returns to labour and capital. That is, we are still below the optimum proportionality of labour and reproducible capital to our land and natural resources. In such circumstances additions to our labour force have not only created a larger national output and permitted per capita incomes to rise but also, as the Canadian market expanded, made possible the creation of specialized industries and the more rapid replacement of out-of-date equipment and facilities. It is true that, in certain periods, not all of the growing labour force has been fully employed, but this reflects in part the inadequacy of economic policy generally pursued, not a proof that a growing population is undesirable.

ECONOMIC BENEFITS OF HEALTH CARE

Expenditures for health care can generate a larger productive labour force in two ways: by extending the length of working life and by ensuring that individuals are able to work more regularly during their productive years.

Size of the Labour Force

The decline in early mortality, which has been examined in Chapter 5, has had as its consequence, a lengthening of the period of time spent in pro-

ductive activity, and this despite a longer period of education and delayed entrance into labour force and a declining age of retirement. Since the end of World War I, the life expectancy of the average North American has increased from 54 years to 70 years, while in the last 25 years, the life expectancy of the average Canadian has increased from 61 to 70 years.[1] Moreover, though mortality in infancy and childhood, and from diseases which strike young adults, such as tuberculosis and poliomyelitis, have been reduced to a low level; there has not, as yet, been any significant lengthening of life into the period when individuals consume more than they produce. The unproductive aged have not increased to any substantial extent as a proportion of the total population and the indications are that this proportion will rise only a little over the next generation. Thus in 1961, persons 65 years of age and over comprised 7.6 per cent of Canada's population and are expected to comprise 8.9 per cent in 1991.[2] As more young people reach their productive years, the nation as a whole is able to support a larger number of unproductive persons including children, students in university and the aged.

We have not calculated the value of an additional unit of human capital in Canada, but a rough estimate has been made of the value of an American male in 1950 which suggests that this would amount to between $17,000 and $33,000 depending on the rate of interest used.[3] The value of a man is greatest around 27 to 30 years[4] but even up to the age of normal

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[1] Bureau of The Census, United States Department of Commerce, *Statistical Abstract of the United States 1961*, Washington, D.C.: U.S. Government Printing Office, p. 54; and Dominion Bureau of Statistics, *Vital Statistics 1960*, Ottawa: Queen's Printer, 1962, p. 62.

[2] Stukel, A., "Population Projections, 1966-1991", Appendix E, in Brown, T. M., *Canadian Economic Growth*, a study prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964, Tables 1 and 11.

[3] See Weisbrod, Burton A., *The Economics of Public Health*, University of Pennsylvania Press, Philadelphia, 1961. The economic value of a man at any point in time is calculated by estimating his life expectancy, his probability of being employed, his expected gross earnings and consumption in each year of his life. By subtracting consumption from gross earnings and applying a rate of discount to this stream of earnings, an estimate can be made of the present value of a man to his family or society. It is clear that all such estimates, particularly the economic estimates, are subject to a substantial margin of error. It is also true that the money value of a man depends on the rate of discount chosen. If resources are available for investment in health or in alternative forms of investment and the latter yield 10 per cent, then the appropriate rate of discount might be 10 per cent and the money value of a man would, according to Professor Weisbrod's estimate, be $17,000. If, however, it is believed that the rate of return on alternative investments would only be 4 per cent then the money value of a man would be $33,000. The lower the discount rate the more valuable future dollars become. It follows then that what we think about rates of return affect our allocation of resources but it is significant that even at a relatively high rate of discount, the money value of a man is positive.

[4] As a man acquires knowledge and experience his income continues to rise until his forties. The economic value of women, once they have brought up their children is somewhat less as women workers reach their peak incomes earlier than men. Such an economic assessment in no way reflects on human values which frequently continue to rise with the wisdom and experience that comes with age.

retirement an average adult male, alive and working, still produced more than he consumed; that is, he had a net productivity and the nation as a whole benefited if he lived to his normal retirement age. Although the value of a man in Canada would be somewhat less than the estimate suggested for the American male since average earnings are somewhat lower, there is an offset in that his personal consumption may also be somewhat lower. Thus there is little doubt that it is in society's interest to keep productive workers active until retirement. What has been said here about male members of the labour force also applies to female members of the labour force and to women working at home though the present value of their future net earnings will be lower. It is true that the resources used for health care might yield a higher social benefit if used elsewhere, but this question is still undecided and there is a growing body of opinion to support the belief that investment in human capital yields returns comparable to investment in fixed capital.[1]

Reduction of Disabling Illness

It is of course necessary to recognize that despite the level of health spending, indications are that the amount of disabling illness remains large and has not declined to the same extent as mortality. In part, the failure of morbidity to decline may be due to better reporting of illness compared to earlier periods and to the ability of an increasingly wealthy society to take time from work in order to avoid the possible serious complications of untreated minor illness. Yet, given the nature of man who must ultimately sicken or die, the volume of disabling illness has certainly increased as a consequence of health expenditures that permit the survival of the permanently disabled young person and the non-productive chronically ill aged. On the other hand, it is also evident that there are many individuals, who a generation ago would have been chronically ill and thus unproductive, but who are now working and not only supporting themselves but also others. The marked decline in long-term disability from tuberculosis, mental illness, poliomyelitis, and other diseases that disabled the working population has increased the output of the nation just as effectively as if the unemployment rate of a community were to decline permanently. In addition, to the extent that capital equipment lies idle or is used less effectively which may be common in a small firm, a reduction of work-time lost through illness may increase the productivity of capital as well as labour.

[1] The difficulty which arises when distinguishing the returns to investment in health from the returns that arise from other forms of investment in human capital are discussed further on in this chapter.

Health and Education

We also wish to emphasize that health expenditures by reducing the incidence of death and illness have indirectly stimulated that major engine of progress, investment in education. We have indicated that the growth of population increases the size of the market and thus the potential for specialization. But the acquisition of education also involves a cost to the individual, to business, or to society so that the amount of such investment undertaken will depend, to a substantial extent, on the expected rate of return. This, assuming no technical obsolescence, will depend on the average length of productive life. It follows that the lengthening of life itself has played a vital role in increasing the stock of investment embodied in Canadians since it has made it more attractive for individuals to incur the costs of advanced education and made it more likely that Canadian society will reap the benefits derived from public expenditures on schooling generally. Although it is probably true that specific individuals believe that they will live until 70, if the average expectancy of life at age 16 was 40 the willingness of the average individual to delay entry into the labour force until he had acquired advanced training, in all probability would be substantially less than it is today. Even when technical obsolescence is taken into account, the lengthening of working life provides an incentive to incur the costs of retraining since it offsets the fact that the incentive to invest in human capital declines at an accelerating rate with age.

The growing contribution of employed women to the material progress of our nation also has been facilitated by the lengthening of their life and the reduction of severe disabling illness among children. Young women now find it profitable to invest in education before marriage in the knowledge that the returns to such investment can ultimately be garnered when their children are grown up or even when their children are in school. The increasing incomes of Canadian families owes a great deal to the ability of wives to supplement their husbands' incomes.

Health Essential to Economic Progress

Even capital accumulation itself, to the extent it depends on savings, has been influenced by the lengthening of human life. Given the expectation of a very short life, a preference for current over future consumption would be a rational choice for an individual since a consumption plan which stresses early years is more certain of fulfilment than one which emphasizes later years. A lengthening of the life span by increasing the possibility of surviving into retirement will lead generally to an increase in the rate of saving and thus capital accumulation.

It must also be recognized that many expenditures on health are the necessary cost of operating an advanced industrial economy and thus are essential for economic progress. They are intermediate expenditures, part of the production costs of final output. Indeed it has been argued that all expenditures on health should be classified in this way since they do not provide pleasure or product but keep us sufficiently healthy to earn income or enjoy it. If they do not contribute to our standard of living they should then be treated as a form of input to be excluded from the national output altogether. In an epidemic where hospitals move from 80 to 100 per cent of capacity and all physicians and nurses are working overtime, it can hardly be supposed that consumption of goods and services has risen merely because health expenditures have risen.

This has not been our approach. But we wish to emphasize that many expenditures arise as a consequence of the hazards of occupation including industrial accidents, travel on roads and highways to and from work or school, and from stress illness associated with the pressures of modern business and factory life. Industrial air and water pollution and radiation hazards generate their yet unmeasured costs in terms of health expenditures as well as in benefits for an industrial society.

The benefits that derive from health services are apparently one major reason why Canadians, either individually or collectively, have spent a significant proportion of their income on such services. Despite their cost in money and foregone leisure, and despite the uncertainty that attaches to any specific benefit, Canadians have been willing, where they are able, to purchase health services since these offer a substantial monetary return when they enable the recipient to carry on with his normal productive activities. We have already referred to the increasing probability of achieving a real benefit from any given expenditure on health. Over this period the cost of mortality and illness has also been rising because of the amount of educational capital embodied in human beings. At the same time this investment has generated higher incomes so that Canadians have been able to devote a rising proportion of their growing incomes to improve their state of health. It makes economic sense to devote a portion of income to purchase the probability of better health resulting from improved health services. The same reasoning accounts for expenditures by business firms on direct health services or health insurance for their employees. Since firms provide on-the-job training and incur costs when productive workers are absent, they are willing to spend additional sums to reduce absenteeism and labour turnover. Thus health expenditures represent an investment outlay which may yield benefits to the firm equal to or in excess of their cost.

Despite general agreement that the provision of health services has contributed to the decline in mortality and morbidity and to the productivity of our society, it is not possible, at present, statistically to separate this

contribution from that of improved diet, housing, environmental sanitation, and education, or to develop an estimate of the contribution of any specific health service to the declining importance of any specific disease; though in many cases the evidence would indicate that the development of health research has played a significant role.[1] Over the past quarter of a century however, the probability that additional expenditures by Canadians on food, clothing and housing would yield significant benefits in the form of lower mortality or morbidity has likely declined while the probability of achieving a benefit from expenditures on medical, hospital, nursing, and dental services along with drugs has almost certainly increased. To the extent that health expenditures have contributed to reducing mortality and morbidity in the labour force, they have become more significant in that part of the economic complex which we call investment in human capital. In a broad historical perspective we can consider a major factor in economic progress, the shift from land in the eighteenth century to physical capital in the nineteenth century, and the growing emphasis on human capital in the twentieth century. In our view, continuing investment to improve human qualities; better education, greater productivity and a longer creative life span will pave the way for even more remarkable economic progress in the twenty-first century.

We have concentrated our attention on the benefits that are derived from expenditures on health services for the productive labour force. This does not mean that there are no economic benefits to be derived from the provision of health services for those who make no direct contribution to the

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[1] Considerable literature is accumulating dealing with investment in human capital and economic returns resulting from increased life expectancy.
Examples include:
Bator, Francis M.—*The Question of Government Spending* (Harper 1960).
Becker, Gary S.—*Investment in Human Capital—A Theoretical Analysis,* unpublished study prepared for Exploratory Conference on Capital Investment in Human Beings, New York: National Bureau of Economic Research, 1961.
Denison, Edward F.—*The Sources of Economic Growth in the United States and the Alternatives Before Us,* Washington, D.C.: The Committee for Economic Development, 1962.
Federal Expenditure Policy for Economic Growth and Stability, Joint Economic Committee, Washington: United States Government Printing Office, 1957.
Fein, Rashi—*Economics of Mental Illness*—Joint Commission on Mental Illness and Health, Monograph Series No. 2, New York: Basic Books, Inc., 1958.
Lees, D. S.—*Health Through Choice,* Great Britain, Institute of Economic Affairs, 1961.
Mushkin, Selma J.—*Health as an Investment,* unpublished study prepared for Exploratory Conference on Capital Investment in Human Beings, New York: National Bureau of Economic Research, December, 1961.
Review of Economics and Statistics, Supplement, August, 1962 (various articles).
Schultz, T. W.—"Investment in Human Capital", *American Economic Review,* March 1961, pp. 1-17.
Vaizey, John—*The Economics of Education,* London: Faber and Faber, 1962.
Weisbrod, Burton A.—*Economics of Public Health,* Philadelphia: University of Pennsylvania Press, 1961.
Weisbrod, Burton A.—"The Valuation of Human Capital", *The Journal of Political Economy,* 1961, pp. 425-436.
Weisbrod, Burton A.—"An Expected-Income Measure of Economic Welfare", *The Journal of Political Economy,* August, 1962, pp. 355-367.

national output. Expenditures on health services for children are clearly intermediate expenditures since an obvious benefit is the maintenance and expansion of the stock of human capital. With the prolongation of education and training a person may have no net productivity until the age of 19 or 20. The cost to society and the family of the loss of such an investment through ill-health is becoming increasingly large. Expenditures on health services for housewives and mothers also can be considered as an intermediate rather than a consumer expenditure. Although the National Income excludes the services of wives it does include the services of paid housekeepers, cooks and nurses whose services in most households are provided by wives. By keeping wives in good health, not only the family and society as a whole benefits, but it becomes possible for a nation to prepare those women entering the labour force for other tasks than those involved in operating a household.

INDIRECT BENEFITS OF HEALTH SERVICES

In our emphasis on the more direct benefits to be derived from a healthy population we must not overlook certain indirect benefits. Thus expenditures on health services which lead to the elimination of infectious disease not only allow people to fill a productive role once again, but also prevent them from infecting future generations. The benefits that accrue from the control of tuberculosis, smallpox, and venereal diseases extend far beyond those received by this generation. To the extent that diseases are eliminated, the costs of case-finding and treatment are also eliminated although, given the inevitability of death through disease, and our desire to provide medical and hospital care for the dying, some other disease ultimately must be treated at a cost. Finally, since the physically and mentally ill and the disabled cannot be left to starve or die of neglect, the rehabilitation of the non-productive worker reduces the need for a transfer of resources from the healthy members of the society to the sick and disabled. This transfer does not add directly to the total product of society but it permits governments to reduce taxes as welfare payments decline, or provides them with additional revenue with which to finance other public consumption.

There are also mental stresses that the provision of health services may eliminate. The loss of a husband, wife or child, or the existence of a permanently disabled member of a family, can have serious effects on the efficiency of the productive members of the family either directly through grief or indirectly through the reallocation of effort that a permanently disabled or retarded member lays upon others. To the extent that health services eliminate those unhappy events, the productivity of the household may be sufficiently high as to pay the cost of such services. Similarly, ex-

penditures on services for the aged or mentally ill that restore them even part way to health, may relieve households of heavy burdens and increase the productivity of all household members. But even if there were no external benefits in the form of increased productivity, such health expenditures may still not be regarded as consumer expenditures since they are incurred to avoid the losses resulting from complete disability.

VALUE OF HEALTH SERVICES

The conclusion at which we have arrived is simply this. Expenditures on health services are, in many cases, quite different from the purchase of an ordinary consumer good. They may actually be a form of investment in human capital; they may be more important, in an affluent society, than additional expenditures on food and shelter and they may yield important external benefits both for the family and society as a whole. If income is not a barrier to purchase health services we can expect that a significant proportion of individual or family resources will be devoted to their purchase. Yet some fundamental problems remain.

Although most health expenditures involve some investment in human capital or an intermediate expenditure they may also involve consumption outlays at the same time or even be the consequence of other consumption on the part of the individual.

Lung cancer, cardiac illness, alcoholism, and highway and other accidents, all appear to be, in part, the consequence of individual behaviour. In a sense, more responsible behaviour would eliminate the need for many health expenditures. But having incurred an illness it would still pay an individual to regain his productive position and avoid disability or premature demise. We may regret unwise human behaviour but we have to accept it as a reality of life. We feel that even where the net gain to society is negative, i.e., when output to be expected is less than the costs of health services required, it still is desirable to assist people to regain their health.

We face great difficulties in deriving a satisfactory measurement of the benefits of health services since the demand for such services may be a combined demand, a demand for preventive or treatment services together with a demand for some satisfaction that has no direct effect on health. This becomes clear if an attempt is made to define the optimum volume and consumption of health services that should be provided for a specific illness or the prevention of some disease. Does an illness require a private hospital room, special nursing care, specialist or general practitioner care, chronic or active treatment hospitalization, ten or eleven days of hospital care, hospitalization for laboratory and radiological diagnostic services, a

physical examination every six months or every year? To raise these questions is to reveal at once the difficulty of answering them, of isolating the intermediate or investment expenditure that yields health benefits from the consumption expenditure that yields consumer satisfaction but is not essential for the maintenance of good health. We have attempted to answer this question in our discussion of the quality of health care and the role of the physician in determining what is "necessary" or "unnecessary".[1] Here we wish to emphasize that in economic terms it is desirable to compare the marginal or additional cost of an additional health service with the marginal benefit derived from it.

From the point of view of both the physician and the patient the additional cost of one more diagnostic service or an additional day in hospital, may outweigh even a small possibility of the avoidance of death or a more complete recovery since such an outlay is not consumption but a good investment. The economics of health services in an affluent society are considerably different from those of a country facing problems in providing sufficient food to keep people from starving.

ESTIMATED COST OF ILLNESS

Although progress in the development and the provision of health services has reduced mortality and the period of disability from many illnesses, and although it is not to be expected that the productive gains from health expenditures will be as great in the future as they have been in the past, further improvements in health would still yield significant economic as well as human benefits both by increasing the output of goods and services that Canadians can produce and by freeing resources now devoted to health and welfare for other purposes. There are thousands of Canadians who die long before their full productive contribution to society has been achieved,[2] thousands of others who make no productive contribution because they are permanently mentally or physically disabled while other thousands lose time from work or from school and home activities because of non-disabling illness.

The economic cost of premature mortality can be indicated by the application of Professor Burton A. Weisbrod's estimate[3] of the present value of net foregone earnings for American men and women in 1950 to the

[1] See Chapter 7 and 13.

[2] In 1960, there were 57,691 deaths in Canada under the age of 65. (See Dominion Bureau of Statistics, *Vital Statistics 1960.*)

[3] Weisbrod, B. A., *Economics of Public Health, op. cit.*, Chapter 7, pp. 48-70.

mortality from cancer, diseases of the circulatory system and accidents in Canada during 1960.[1] Using a discount rate of 10 per cent, the elimination of these deaths in one year alone would have been the equivalent of a net gain—after deducting consumption expenditures of survivors—of over $400 million, a return that would make some investment in health worthwhile. If the discount rate used were to be 4 per cent the gains would be all the larger as can be seen from Table 12-2 where the use of a 4 per cent discount rate increased the gains from reducing mortality due to cancer from $118 million to $167 million. A lower rate of discount would also increase the value of production consequent on the elimination of accidents. This is especially true where the death of children is involved. With a high rate of discount, earnings far in the future possess only a small present value so that the loss of a child has a lesser economic significance than the loss of life of a young adult male.

Absence from work because of illness or injury also imposes heavy burdens on Canadians. The direction of causation may be uncertain, but it is significant that there is a high correlation between the number of days an individual is disabled from illness and the size of his income. Low incomes and above average illness are still too common an experience in our society. Thus, on an average day there are about 2 per cent of the labour force[2] absent from work because of illness and accident while during the whole year the total number of days lost through non-disabling physical illness amounted to nearly 34 million or 5.2 days per employed person. Days lost from work as a consequence of total physical disability were estimated to be 53 million and from mental illness, 11.4 million. The cost of such absences is estimated to have been equal to a loss of output of at least $1,420 million. This was equivalent to about 3.8 per cent of total output (GNP) and 6.4 per cent of the total civilian payroll. This loss of output was the consequence of a loss of productivity from non-disabling illness among those normally employed amounting to around $490 million; loss of productivity as a consequence of permanent physical disability amounted to $765 million; while productivity amounting to an estimated $165 million was lost as a consequence of mental illness.

In 1961 the average Canadian worked 2,164 hours per year. On the basis of an average 40 hour five-day week this represents 270 working days a year. Accordingly, the 64 million man days of inactivity because of total physical disability and mental illness may represent a total loss of 237,000

[1] See Tables 12-2 to 12-4.

[2] In 1960, the non-effective rate from certified illness in the Federal Civil Service was 1.9 per cent. See Dominion Bureau of Statistics, *Illness in the Civil Service 1960*, Ottawa: Queen's Printer, 1962, p. 12.

TABLE 12-2 ESTIMATED PRESENT VALUE OF LOST NET PRODUCTION RESULTING FROM DEATHS FROM CANCER, CANADA, 1960, AT FOUR AND TEN PER CENT DISCOUNT RATES

Age Group	Male			Female			Male		Female		Both Sexes	
	Discount Rate of Ten Per Cent						Discount Rate of Four Per Cent				Discount Rate Ten Per Cent	Discount Rate Four Per Cent
	Total Deaths in 1960	Present Value of Net Foregone Earnings of One Individual at Each Age	Total Present Value of Net Foregone Earnings	Total Deaths in 1960	Present Value of Net Foregone Earnings of One Individual at Each Age	Total Present Value of Net Foregone Earnings	Present Value of Net Foregone Earnings of One Individual at Each Age	Total Present Value of Net Foregone Earnings	Present Value of Net Foregone Earnings of One Individual at Each Age	Total Present Value of Net Foregone Earnings	Present Value of Net Foregone Earnings of One Individual at Each Age	Total Present Value of Net Foregone Earnings
		$	$ '000,000		$	$ '000,000	$	$ '000,000	$	$ '000,000	$	$ '000,000
0–4	119	1,897	.24	110	1,984	.22	19,672	2.34	17,841	1.96	.46	4.30
5–9	90	3,633	.33	57	3,753	.21	23,857	2.15	21,691	1.24	.54	3.39
10–14	58	7,611	.44	46	7,798	.36	30,651	1.78	27,957	1.29	.80	3.07
15–19	71	14,933	1.06	37	15,315	.57	39,741	2.82	36,487	1.35	1.63	4.17
20–24	65	22,415	1.46	38	20,966	.80	47,017	3.06	41,077	1.79	2.26	4.85
25–29	87	26,258	2.28	82	21,515	1.76	48,826	4.25	39,496	3.24	4.04	7.49
30–34	134	26,966	3.61	155	21,889	3.39	46,396	6.22	37,169	5.76	7.00	11.98
35–39	184	26,324	4.84	308	21,363	6.58	41,921	7.71	33,344	10.27	11.42	17.98
40–44	270	23,273	6.28	488	18,479	9.02	34,821	9.40	26,991	13.17	15.30	22.57
45–49	533	19,056	10.16	755	14,470	10.92	26,848	14.31	19,849	14.99	21.08	29.30
50–54	778	14,741	11.47	866	10,731	9.29	19,343	15.05	13,526	11.71	20.76	26.76
55–59	1,175	10,666	12.54	998	7,048	7.03	12,631	14.84	7,777	7.76	19.56	22.60
60–64	1,409	5,833	8.22	1,118	3,276	3.66	5,769	8.13	2,598	2.90	11.88	11.03
65–69	1,727	616	1.06	1,293	−62	−.08	−484	−.84	−1,421	−1.84	.98	−2.68
TOTAL	6,700	—	63.98	6,351	—	53.73	—	91.22	—	75.59	117.71	166.81

SOURCE: Dominion Bureau of Statistics, *Vital Statistics 1960*, and Weisbrod, Burton A., *Economics of Public Health*, University of Pennsylvania Press, Philadelphia, 1961. Present values are based upon American experience in 1950.

TABLE 12-3 ESTIMATED PRESENT VALUE OF LOST NET PRODUCTION RESULTING FROM DEATHS FROM DISEASES OF THE CIRCULATORY SYSTEM, CANADA, 1960, AT TEN PER CENT DISCOUNT RATE

Age Group	Male			Female			Both Sexes	
	Total Deaths in 1960	Present Value of Net Foregone Earnings at Each Age	Total Present Value of Net Foregone Earnings	Total Deaths in 1960	Present Value of Net Foregone Earnings at Each Age	Total Present Value of Net Foregone Earnings	Total Deaths in 1960	Total Present Value of Net Foregone Earnings
		$	$ '000,000		$	$ '000,000		$ '000,000
0-4	17	1,897	.03	12	1,984	.02	29	.05
5-9	11	3,633	.04	8	3,753	.03	19	.07
10-14	12	7,611	.09	12	7,798	.09	24	.18
15-19	18	14,933	.27	20	15,315	.31	38	.58
20-24	29	22,415	.65	25	20,966	.52	54	1.17
25-29	53	26,258	1.39	40	21,515	.86	93	2.25
30-34	133	26,966	3.59	60	21,889	1.31	193	4.90
35-39	373	26,324	9.82	121	21,363	2.58	494	12.40
40-44	676	23,273	15.73	177	18,479	3.27	853	19.00
45-49	1,343	19,056	25.59	366	14,470	5.30	1,709	30.89
50-54	1,928	14,741	28.42	569	10,731	6.11	2,497	34.53
55-59	2,691	10,666	28.70	858	7,048	6.05	3,549	34.75
60-64	3,483	5,833	20.32	1,463	3,276	4.79	4,946	25.11
65-69	4,105	616	2.53	2,135	−62	−.13	6,240	2.40
TOTAL	14,872	—	137.17	5,866	—	31.11	20,735	168.28

SOURCE: Table 12-2.

TABLE 12-4 ESTIMATED PRESENT VALUE OF LOST NET PRODUCTION RESULTING FROM DEATHS FROM ACCIDENTS, CANADA, 1960, AT TEN PER CENT DISCOUNT RATE

Age Group	Male			Female			Both Sexes	
	Total Deaths in 1960	Present Value of Net Foregone Earnings at Each Age	Total Present Value of Net Foregone Earnings	Total Deaths in 1960	Present Value of Net Foregone Earnings at Each Age	Total Present Value of Net Foregone Earnings	Total Deaths in 1960	Total Present Value of Net Foregone Earnings
		$	$ '000,000		$	$ '000,000		$ '000,000
0-4	751	1,897	1.42	517	1,984	1.03	1,268	2.45
5-9	401	3,633	1.46	186	3,753	.70	587	2.15
10-14	347	7,611	2.64	112	7,798	.87	459	3.51
15-19	627	14,933	9.36	167	15,315	2.56	794	11.92
20-24	696	22,415	15.60	114	20,966	2.39	810	17.99
25-29	638	26,258	16.75	110	21,515	2.37	748	19.12
30-34	529	26,966	14.27	104	21,889	2.28	633	16.54
35-39	525	26,324	13.82	132	21,363	2.82	657	16.64
40-44	458	23,273	10.66	110	18,479	2.03	568	12.69
45-49	490	19,056	9.34	128	14,470	1.85	618	11.19
50-54	484	14,741	7.13	114	10,731	1.22	598	8.36
55-59	410	10,666	4.37	99	7,048	.70	509	5.09
60-64	343	5,833	2.00	111	3,276	.36	454	2.36
65-69	331	616	.20	112	−62	−.01	443	.20
TOTAL	7,030	—	109.03	2,116	—	21.17	9,146	130.20

SOURCE: Table 12-2.

man years of potential work.[1] This is not to suggest that all the physically disabled and mentally ill can be rehabilitated but it has been represented to us that many can, either in part or in full.

Canadians have heard a great deal about the level of unemployment in their country which has been described as the highest among the industrialized nations of the world. In 1962 the unemployed averaged 391,000 for the year as a whole. The "silent" unemployed, the handicapped and the mentally ill, losing 237,000 man years of potential work are equivalent to about three-fifths of the number of persons actually unemployed.

A major part of Canada's economic policy has been to speed up the rate of economic growth, to strengthen the economic base of the country and to reduce the continuing high volume of unemployment to a more acceptable level. We believe that an equally strong case can be made to pursue policies which will reduce the number of the "silent" unemployed with great benefits to the individuals involved, their families and the nation as a whole.

The economic and social advantages to be derived from what we have described as the "silent" unemployed are great indeed. But such an objective cannot be achieved without cost. Further, despite the very substantial loss of production due to death and illness it is still true that such losses amount to a relatively small proportion of total output, and on the basis of present knowledge, all that could be achieved is a reduction of such losses, the degree of which would in part be determined by the efforts made by society to realize such an important objective.

The reduction of accidental death presents a great many problems. A sizeable proportion of the lost work-time caused by non-disabling diseases among those normally employed is produced by respiratory illness—the common cold—whilst among those not in the labour force because of mental illness, perhaps 40 per cent suffered from mental deficiency, many of whom were permanently unemployable. It would be utopian to believe that mortality, illness and disability among the working force could ever be eliminated. But if lost productivity from illness could be reduced by even one-third, say, $500 million a year, this would be a sizeable contribution to the maintenance of those who must be maintained anyway if humanitarian considerations are not to be disregarded altogether.

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[1] A number of examples were presented to us in our hearings of economic losses incurred due to illness. To illustrate: "A dramatic example of this waste is illustrated in the figures taken from Canadian Labour Congress 'Highlights,' Vol. 4, No. 5, May 1, 1961, which show that in 1960, while 747,120 man working days were lost by reason of strikes, 20,228,000 man days of employment were lost through illness. This is 27 times greater than the strike time lost although the strike time usually receives 27 times more publicity. Unemployment accounted for 141 times the strike time loss or 105,716,000 man working days". Brief submitted to the Royal Commission on Health Services by Robert M. Strachan, M.L.A. Leader of the Opposition, British Columbia, Victoria, B.C., February 1962, p. 8.

That there are benefits to be derived from the rehabilitation of workers cannot be over-emphasized. This is evident from the joint activities of the Federal Government and the provinces carried out through the Civilian Rehabilitation Programme and the Technical and Vocational Training Programme. A study of nearly 10,000 rehabilitated persons has been carried out by the Civilian Rehabilitation Branch of the Department of Labour. On the basis of what it would have cost to maintain those rehabilitated in 1961-62, and on the assumption that those rehabilitated in earlier years earned at least as much as those rehabilitated in 1961-62, it is estimated that in that year the savings in maintenance expenditures approached $60 million, while the earnings of those employed amounted to over $180 million.[1] There were, of course, costs incurred for medical, hospital, nursing and other health services which, on the average, amounted to $1,000 for each person rehabilitated. There were, in addition, other costs incurred in providing health services for those who still were unable to work after receiving services. But taking these into account the success of the programme seems established. Other evidence has been presented by the Co-ordinating Council on Rehabilitation of Saskatchewan which indicated for a group of 71 people rehabilitated, the cost to the taxpayer for their support was reduced by $54,580 annually. Each individual earned, on the average about $2,000 a year.

Statistics obtainable to assist in an assessment of the economic costs of premature mortality and illness are limited and approximate. Still they are useful in that they indicate the order of magnitude of such costs. Table 12-5 brings together the monetary costs of a few selected diseases; mental illness, diseases of the circulatory system, accidents and cancer. The costs are estimated losses through mortality in 1960, production losses through illness and finally treatment costs. Mental illness was the most expensive amounting to an estimated $535 million, followed by diseases of the circulatory system, $409 million; accidents, $241 million; and cancer, $178 million. These figures while rough do give some indication of the areas where the greatest returns to health spending might be expected and what these returns might consist of. As is generally recognized mental illness was by far the most costly illness to Canadians both because of lost productivity and the cost of maintenance and treatment, and would have been much more costly if the mentally ill had been provided with as high quality hospital care as the physically ill. On the other hand, the losses generated by diseases of the circulatory system, cancer and accidents arise primarily from the premature death of Canadians in the most productive portions of their life, middle age, although the lost production and treatment costs were not insignificant.

[1] Data supplied by "Rehabilitation in Canada", Department of Labour; Ottawa: Queen's Printer.

COSTS AND BENEFITS

We have tried to identify the benefits that accrue as a consequence of expenditures on health services since identification of benefits is a logical step prior to the measurement of such benefits. We recognize that our discussion is limited by the inability at this time to quantify benefits in a definite manner, but we feel that the evidence is such as to support our judgment that the social and economic advantages derived from the reduction of premature mortality and illness have been large and that further benefits will accrue in the future. The allocation of research funds to cancer, accident or mental illness programmes, or to diagnostic and treatment services that led to a further reduction of illness and death, would certainly produce large benefits. On the other hand, an early detection of cancer which reduced mortality without reducing morbidity might have as its consequence an increase in treatment costs for those who continue to live, plus the economic loss of production needed to offset the extra consumption of a non-productive member of the society as is already the case for children with serious mental deficiencies.

We must therefore emphasize that the benefits from an expansion of health services cannot be achieved without cost. The provision of information about health hazards; the creation of an appropriate attitude towards risk; the provision of more scientists and scientific equipment along with the supporting staff for health research; the provision of more physicians, dentists, nurses to provide health care for those who do not at present receive it and the establishment of more diagnostic, treatment and rehabilitation centres for the mentally and physically disabled; all require that resources be allocated to health, unless they are unemployed, that could be used to satisfy other investment and consumption requirements. The awareness of the benefits to be derived from investment in human capital has recently led to the investigation of the relationship between this cost and benefit, and the data available for such an assessment are still limited and approximate. As yet we cannot speak of a return of 10 per cent from an investment in health services, or of a return of 9 per cent from an additional million dollars invested in research compared with a return of 11 per cent from an additional million dollars invested in a rehabilitation centre. Yet a choice must be made since sufficient resources will not be available to eliminate every disease. Some guide lines for public policy on health expenditures are, as we have indicated, vital and one guide line is the estimated economic benefits to be derived from the reduction of various illnesses. Pressures and special interests should not be allowed to determine the allocation of resources to specific diseases.

TABLE 12-5 ESTIMATED VALUE OF LOST PRODUCTIVITY FROM SELECTED DISEASES, CANADA, 1960-61

Item	Mental Illness	Diseases of the Circulatory System	Accidents	Cancer
		'000,000		
Mortality	—	168	130	118
Morbidity	165	130	71	7
Treatment Costs	370	111	40	53
TOTAL	535	409	241	178

SOURCE: Madden, J. J., *Economics of Health*, and Kohn, R., *The Health Status of the Canadian People;* studies prepared for the Royal Commission on Health Services, Ottawa: Queen's Printer, 1964.

The national interest along with adequate planning and preparation, should be the basis determining priorities, and the pattern of an evolving integrated health programme for Canada. To assist decision makers in legislatures, governments, the health industry, and the public at large there is therefore need for continuing economic research and data processing with results being made public so that programmes and policies can be formulated with an adequate understanding of the costs of and benefits to be derived from current and additional health spending. This could be one of the functions of the Health Sciences Research Council which we propose.[1]

[1] See Chapter 2, Recommendations 177-185.