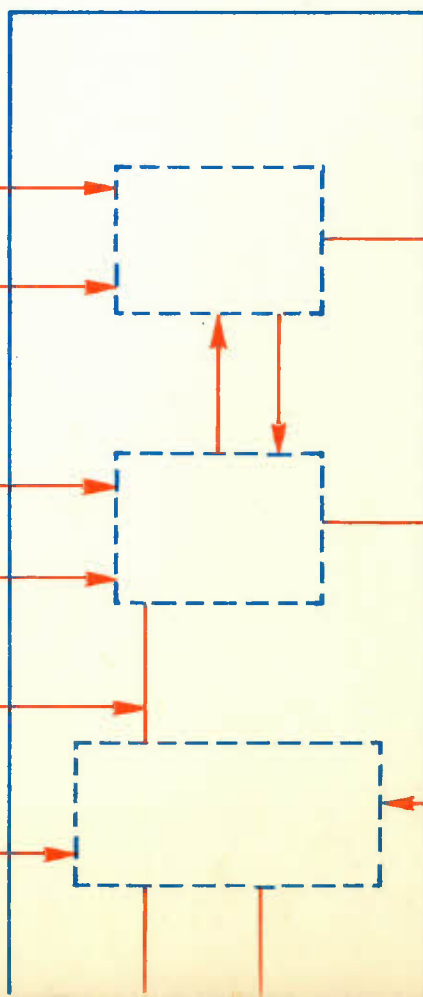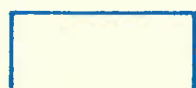A paper prepared for the
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DISCUSSION PAPER NO. 146

Distributional and Redistributional
Aspects of Government Health
Insurance Programs in Canada

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SUMMARY

In this paper, the distributive and redistributive aspects of Canada's medical care and hospital insurance plans are assessed. The data employed were obtained from the 1975 Survey of Consumer Finances which contained a special section that, among other things, dealt with the health services consumed by Canadians in 1974; this Statistics Canada survey covered 12,500 family units located in all ten provinces. It is important to reassess the distributive and redistributive impact of the medical care and hospital insurance plans at this time, since the high levels of expenditures incurred by these plans in the federal and provincial budgets have increasingly been brought under scrutiny. In making this reassessment, it is necessary to bear particularly in mind one of the original distributive and redistributive objectives of the plans; namely, to provide adequate health care to Canada's economically least fortunate.

The analysis of the data reveals clearly that the amount of health care Canadians consume varies considerably with their socio-economic characteristics. A distribution of the plans' benefits occurs towards the less advantaged, whether they are defined in terms of income, education, duration of employment, or occupation. For example, when individuals are ranked in order of the incomes of their family units, the bottom 20 per cent consume, in dollar terms, almost two and a half times more of the health services generally covered by the two plans taken together than the top 20 per cent. The

greater consumption of health care benefits by the less advantaged, relative to the better off, is a result, we argue, of need, rather than a reflection of differing opportunity costs.

There is a distinct difference in the way the less advantaged and the better off make use of the two plans; the less advantaged consume less under the medical care plan than the better off, but more than the better off under the hospital insurance plan. This has important consequences for expenditures, as the hospital plan is by far the more important of the two. It must be remembered, however, that entry to a hospital generally implies the indication (assessed by a doctor) of real need.

The analysis shows that both plans also implicitly redistribute income from the better off to the less advantaged through that part of their financing obtained from personal income tax and premiums. The bottom 20 per cent of family units on the income scale contribute only 1 per cent of the financing through these means, while those in the top 20 per cent contribute about 48 per cent. In the case of medical insurance, an even more progressively redistributive method of financing would be to do away with the collection of premiums where they exist, and to finance the plan entirely from personal income taxes. The text discusses the redistributive impact of the abolition of premiums.

A number of factors can be used to explain the particular attention paid over the last few years to the growth in government health expenditures. Competing budgetary

pressures and a concern with the extent to which demographic
shifts may affect future expenditures are just two of these.
Actually, there may be a number of ways of rendering our health
services more efficient and less costly, and significant efforts
should be made to put these in place. But cost reduction should
not be accomplished to the detriment of what has already been
achieved by our medical care and hospital insurance plans --
namely, a progressively redistributive system from the viewpoint
of financing, and reasonably equitable access to treatment for
those in need, regardless of their economic situation.

RÉSUMÉ

Les auteurs analysent dans ce document les aspects distributifs et redistributifs des régimes d'assurance-médicale et d'assurance-hospitalisation au pays. Les données utilisées ont été tirées de l'Enquête sur les finances des consommateurs réalisée en 1975 par Statistique Canada. Un volet de cette enquête qui a touché 12,500 unités familiales à travers les dix provinces portait sur la consommation des services de santé en 1974.

Il est important que l'on s'interroge sur l'incidence distributive et redistributive de l'assurance-médicale et de l'assurance-hospitalisation parce que les hauts niveaux de dépenses atteints par ces deux régimes dans les budgets fédéral et provinciaux sont de plus en plus souvent passés à la loupe. En revoyant ces deux régimes il est nécessaire de conserver à l'esprit que l'un de leurs objectifs originaux était de fournir des soins de santé adéquats aux Canadiens les moins fortunés.

L'analyse des données nous indique clairement que les quantités de services de santé consommées par les Canadiens varient considérablement selon leurs caractéristiques socio-économiques. Une distribution des bénéfices offerts par les deux régimes s'opère en direction des plus démunis; peu importe que ce soit en termes de revenus, de niveau de scolarité, de durée d'emploi ou de professions. Par exemple, lorsque nous ordonnons les individus selon le revenu de leur unité familiale

on observe que les 20 % se situant au bas de l'échelle des reve-
nus consomment, en termes de dollars, presque deux fois et demie
plus de services de santé relevant des deux régimes réunis que
les 20 % se situant au haut de l'échelle. À notre avis, ce
serait là le résultat de ce que les individus les moins fortunés
requièrent davantage de services de santé que les mieux fortunés
et non pas le résultat de différences dans les coûts d'opportu-
nité auxquels font face les deux groupes.

Les gens aisés et ceux qui le sont moins n'utilisent
pas les deux régimes de la même façon. Les gens les moins
aisés consomment moins que les gens aisés de services de santé
relevant de l'assurance-médicale. Dans le cas de l'assurance-
hospitalisation on observe l'inverse. Ceci a des conséquences
importantes sur le niveau des dépenses puisque le régime de
l'assurance-hospitalisation est de loin le plus coûteux des deux.
D'un autre côté, il convient de souligner que la consommation de
services relevant de l'assurance-hospitalisation exige le dia-
gnostic d'un médecin quant à l'état de santé de la personne im-
pliquée.

L'analyse menée par les deux auteurs indique également
que les deux régimes redistribuent de façon implicite les revenus
des riches vers les pauvres via la partie de leur financement qui
provient de l'impôt sur le revenu des particuliers et des primes.
Les 20 % de familles au bas de l'échelle des revenus contribuent
pour seulement 1 % au financement des deux régimes, alors que les
20 % au haut de l'échelle y contribuent pour quelque 48 %. Dans

le cas de l'assurance-médicale on pourrait même accroître encore davantage la redistributivité du programme en laissant complètement de côté le financement par les primes et en recourant exclusivement à l'impôt sur le revenu des particuliers. Les auteurs traitent de cette question.

De nombreux facteurs peuvent expliquer que l'on ait attaché dernièrement une importance particulière à l'évolution des dépenses de santé. Les contraintes budgétaires et les pressions démographiques ne sont que deux de ceux-là. Il y a certainement bien des façons de rendre nos régimes de santé plus efficaces et moins coûteux et des efforts significatifs devraient être engagés dans cette direction. Mais ces objectifs ne doivent pas être atteints au détriment des avantages que procurent déjà les régimes d'assurance-médicale et d'assurance-hospitalisation en ce qui touche notamment la redistributivité au niveau du financement et l'accès raisonnablement équitable aux services pour ceux dans le besoin peu importe leurs conditions financières.

ACKNOWLEDGEMENTS

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Chapter 1: Introduction

The hospital insurance programs in Canada were estab-
lished in the various provinces and territories over the period
1958 to 1961, and the medical care insurance programs over the
period 1968 to 1972. The major objective that led to the
enactment of these programs was to make health care services
accessible to all the country's inhabitants regardless of their
income, age, and other characteristics. Another underlying
purpose was to spread the financial burden associated with ill-
health, so that a severe or protracted illness in a family
might not have the effect, through incurred medical expenses,
of placing a significant or damaging drain on the family's eco-
nomic resources.

The establishment of these programs has been accom-
panied by substantial increases in total health care expendi-
tures (public and private expenditures combined). These expen-
ditures, as a percentage of GNP, rose from 5.6 per cent in 1960
to 7.1 per cent in 1970. Over the same period, government
expenditures on health as a percentage of total health care
expenditures increased from 43 per cent to 69 per cent. How-
ever, over the period since 1970, the growth of total health
care expenditures has levelled off as a percentage of GNP, with
the figure for both 1975 and 1976 being 7.1 per cent.[1] Nonethe-
less, the actual growth of the dollar size of government

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1 For a more detailed discussion of health care expenditures in Canada, and
   their evolution over time, see J.-A. Boulet and G. Grenier, "Health Expen-
   ditures in Canada and the Impact of Demographic Changes on Future Expendi-
   tures under the Government Health Insurance Programs", Economic Council of
   Canada, Discussion Paper No. 123 (October 1978).

expenditures on health in the 1970s remains a real source of concern in government and other circles.

Any appraisal of the existing structure of health care in Canada, and of potential policy changes aimed at reducing costs, must be made in the light of the original objectives of the interventions of governments through the medical care and hospital insurance programs, i.e. more equal accessibility and the sharing of costs. In this paper, we examine the patterns of consumption under these two programs and the distribution of their costs and benefits. The question of the patterns of consumption is clearly related to the objective concerned with accessibility, and the question of the distribution of costs and benefits is related to the objective concerned with the spreading of risks and the sharing of costs.

The data for this study are drawn from the Statistics Canada 1975 Survey of Consumer Finances, and are for 1974. This survey contains a special supplement with questions on the utilization of health and educational services by the reporting households. The health care services for which information was gathered are those insured under the medical care and hospital insurance programs.[2]

This document is divided into five chapters. In Chapter 2, we examine the findings of previous related studies, and discuss the data and concepts employed in this study. In

2 For more detail on this supplement to the 1975 Survey of Consumer Finances, see Statistics Canada, *Distributional Effects of Health and Education Benefits, Canada, 1974*, Catalogue No. 13-561, occasional (June 1977).

Chapter 3, we compare the patterns of health care consumption that we would expect to be associated with various socio-economic characteristics with the corresponding observed patterns of consumption for 1974. We present, in Chapter 4, the distribution of the costs of the medical care and hospital insurance programs across income classes, and compare this to the corresponding distribution of the benefits. The final chapter draws together certain conclusions, and discusses, in the light of the findings in this document, certain aspects of the role of governments in the redistribution of resources.

Chapter 2: Perspective

2.1 A Brief Review of the Canadian Literature

Since the medical care and hospital insurance programs are of comparatively recent origin in Canada, there are only a limited number of studies of the distributive and redistributive effects of these programs (and their immediate precursors). Six of these studies will be reviewed briefly in this section. It is important to note that their findings are not always in accord.

By the distributive effects of these programs, we mean the distribution of the benefits provided by the services insured (i.e. the patterns of consumption) according to certain characteristics of the population in question (including income, region of residence, age, and so on). In looking at the distributive aspects, the hypothesis is generally made that the benefits obtained from the insured health services are equivalent to the costs incurred in obtaining these benefits.[3] These benefits can thus be seen as a form of income in kind accruing to those who use these services. As a matter of interest, it has been shown that, for economic families,[4] the distribution of total

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3 It should be noted, however, that it is difficult to evaluate the precise distributive impact of the benefits flowing from health care since, first of all, the benefits accruing to those receiving treatment may outweigh the costs of the treatment, and, secondly, benefits may accrue to others than those receiving health care.

4 For the purposes of this document, an *economic family* is defined as a group of individuals sharing a common dwelling unit and related by blood, marriage or adoption. An *unattached individual* is a person living by him/herself in a household where he/she is not related to other household members. Finally, the term *family unit* is used to designate collectively economic families and unattached individuals. See Statistics Canada, *Distributional Effects of Health and Education Benefits, Canada, 1974* (Catalogue No. 13-561), op. cit., p. 58.

money income in 1974 was less equal than the distribution of
total money income plus income in kind resulting from benefits
derived from health care consumption generally covered by the
medical care and hospital insurance programs, although the
difference was not great (these distributions yielded Gini
coefficients of 0.325 and 0.313, respectively).[5]

The redistributive effect of these programs refers
to the comparison of the distribution across family units (or
individuals) -- ordered by level of income -- of the benefits
derived from these programs, with the distribution of the costs
across the same population. If the lower income people receive
more in benefits than they pay towards the costs (and the
inverse is true of the rich), these programs would be consid-
ered progressively redistributive. If the opposite were true,
they would be considered regressively redistributive.

The first of the six studies to be mentioned here was
carried out by Enterline and others for the Montreal metropoli-
tan area, and employed a sample of about 5,800 households.[6] One
of the purposes of the study was to determine in what way the
introduction of the medical care insurance program in Quebec
affected the utilization of the professional services covered
by the scheme. The period studied, 1969 to 1972, covered the
two years before and the two years after the scheme came into

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5 Statistics Canada, *Distributional Effects of Health and Education Bene-
   fits, Canada, 1974* (Catalogue No. 13-561), op. cit., p. 20.

6 P.E. Enterline, et al., "The Distribution of Medical Services Before
   and After 'Free' Medical Care -- The Quebec Experience", *The New England
   Journal of Medicine*, Vol. 289, No. 22 (1973), pp. 1174-1178.

effect. A major conclusion of the study was that the average
number of visits per capita to the doctor over the period of a
year was approximately the same before the program came into
effect as it was after. At the same time, however, there was
some shift in the profiles of utilization. Those in the lower
income groups and/or with lower levels of education tended to
consume relatively more physician services after the program
came into effect than they did before, and those in the higher
income groups and/or with higher levels of education tended to
consume relatively less. This shift was accompanied by some
modification in the type of services provided by physicians.

The second study to be discussed concerns Saskatchewan.
It was carried out by Beck for the period 1963 to 1968, and
covered a cross-section of about 40,000 family units in each of
these years.[7] A public medical care insurance program was in-
troduced in Saskatchewan in 1962, and this study attempts to
determine the pattern of access to and consumption of medical
care in the province in these years, and how this pattern evolved
as the program matured. The evidence presented suggests that
lower income family units had less contact with physicians and
consumed fewer medical services than higher income family units
during the years studied. The study also indicated, however,

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7 R.G. Beck, "Economic Class and Access to Physician Services Under Public
  Medical Care Insurance", *International Journal of Health Services*, Vol. 3,
  No. 3 (1973); see also, R.G. Beck and J.M. Horne, "Economic Class and Risk
  Avoidance: Experience Under Public Medical Care Insurance", *The Journal
  of Risk and Insurance*, Vol. 43, No. 1 (1976). The latter article presents
  data for 1963, 1967 and 1971.

that the disparities of contact and consumption between income groups diminished over the period 1963 to 1968, while nonetheless remaining significant at the end of it.

Some results for 1967 from a related piece of work by Beck and Horne are presented in Table 2-1. These data suggest that the proportion of family units which made no use of the insured medical services during the course of the year was greater for the lower income family units than for the higher income family units. In addition, of those receiving medical services, the higher income family units tended to consume more medical services, in terms of the monetary value of these services, than the lower income family units. However, as Beck and Horne note, it is possible that some of the observed income effects may be due to the influence of the differences between the sociodemographic characteristics (age, family size, education, and so on) of the family units in the various income groups.

The third study to be noted in this brief review of the literature is also by Beck.[8] This study is again concerned with the province of Saskatchewan, and with the period 1963 to 1968. In particular, the effect of the introduction of "co-payments"[9] in 1968 into the public medical insurance program for the purposes of controlling costs is examined. The major

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8 R.G. Beck, "The Effects of Co-payment on the Poor", *The Journal of Human Resources*, Vol. IX, No. 1 (Winter 1974).

9 Co-payments are defined as direct charges to a patient at the time of service -- in other words, a user charge or utilization fee.

Table 2-1

DISTRIBUTION OF FAMILY UNITS BY INCOME CLASS AND BY THE MONETARY
VALUE OF MEDICAL SERVICES RECEIVED, SASKATCHEWAN, 1967

Income Class	No service received	Per cent of family units in each income class receiving medical services valued at (per cent)									Total number of families	Average monetary value of medical services received (dollars)
		$1 to $24	$25 to $49	$50 to $99	$100 to $149	$150 to $249	$250 to $349	$350 to $499	$500 to $749	$750 or more		
$ 1- 2,499	25.7[1]	29.7	14.1	12.4	6.1	6.2	2.9	1.8	0.8	0.2	6,166	60.77
$ 2,500- 4,999	22.5	25.1	15.2	14.8	8.1	7.7	3.4	2.3	0.8	0.2	7,497	71.70
$ 5,000- 9,999	15.8	17.6	15.9	18.9	11.6	10.7	4.5	3.2	1.3	0.4	8,370	96.44
$10,000-14,999	11.6	16.9	16.7	19.9	13.5	10.4	5.3	3.9	1.4	0.1	2,211	103.59
$15,000 or more	8.8	15.2	15.2	21.0	13.8	13.0	6.4	4.6	1.2	0.7	840	117.99
All income classes	19.6	22.7	15.3	16.3	9.4	8.8	3.9	2.7	1.0	0.3	25,084	81.67

1 All rows add to 100 per cent.

Source: R.G. Beck and J.M. Horne, "Economic Class and Risk Avoidance: Experience Under Public Medical
Care Insurance", *The Journal of Risk and Insurance*, Vol. 43, No. 1 (March 1976) p. 82.

conclusion of the study is that the introduction of co-payments resulted in a greater reduction of the use of physician services by lower income family units than by the population as a whole. In other words, in terms of redistributive effects, the intro-duction of co-payments has a regressive impact.

The next study to be mentioned was done by Manga for Ontario.[10] Covering a sample of 1,290 family units, it examines their use of physician services under the medical care insurance program for the period from April 1, 1974, to March 31, 1975. In particular, it examines the patterns of consumption of medical care services according to certain socioeconomic and demographic characteristics of the population, and attempts to establish the functional relationship between the consumption of these services and family unit characteristics such as income, age and level of education of the family unit head, access to medical care, and so on. The findings of the study suggest a positive relationship between the value of health services consumed by family units and their income, but also suggest that a signifi-cant part of this relationship may be attributable to certain differences in the socioeconomic and demographic characteristics of higher income relative to lower income family units.

Another study, the fifth in this review of the liter-ature, was done by Rodrigue for the province of Quebec.[11] The

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10 P. Manga, *The Income Distribution Effect of Medical Insurance in Ontario*, Ontario Economic Council, Occasional Paper No. 6 (1978).

11 M. Rodrigue, *Use of Physician Services in a National Medical Care Plan: The Quebec Experience, Fiscal Year 1971-1972*, Health and Welfare Canada (1974).

study examines the utilization of insured medical services by
11,200 individuals over the period April 1, 1971, to March 31,
1972. Particular attention is paid to the nature of the medical
problems experienced by those seeking the aid of a physician
(where this aid is covered by the medical care insurance program),
and certain observations concerning the patterns of medical care
consumption in Quebec are made. Special attention is also
focused on the effect on consumption of the age and sex of the
individuals. One of the major conclusions of the study is that
a small proportion of the population (about 7 per cent), which
is largely comprised of the aged, account for nearly half of the
medical (physician) services that are insured under the medical
care insurance program. Since there is a certain tendency for
the aged to be members of lower income family units, this find-
ing would tend to suggest that there might be an inverse, rather
than a positive relationship, between income and medical care
consumption in Quebec. However, since income was not a variable
in this study, such a possibility remains speculative.

Finally, Statistics Canada published a study based on
the supplement to the 1975 Survey of Consumer Finances concerned
with the utilization of health and educational services in 1974.[12]
Their sample includes about 12,500 family units in all ten pro-
vinces, and their focus with respect to health is on services
generally insured under the medical care and hospital insurance

12 Statistics Canada, *Distributional Effects of Health and Education Benefits,
Canada, 1974*, op. cit.

programs. They present valuable information on the rates of utilization and the distribution of consumption in relation to various socioeconomic and demographic characteristics for both medical and hospital services. They found that there was a slightly higher rate of utilization of medical services among those in the lower income groups, relative to those in the higher income groups,[13] and that the utilization of hospital services was notably higher for those in the lower income groups relative to the rest of the population. The findings with respect to medical services stands in contrast to the findings of Beck and of Manga. As a matter of interest, this study suggests that the redistributive impact of medical and hospital services is more progressive than that for educational services.[14]

2.2 Focus of Study and Data Used

Of the six studies reviewed in the previous section, only one presents material for the country as a whole (the document prepared by Statistics Canada), and only one (Statistics Canada again) presents material on the distribution of the benefits of the hospital services. None of them looks at the distribution of the costs of the medical care and hospital insurance programs across the population.

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13 Ibid., p. 36.

14 This is consistent with the finding for the United Kingdom that of all broad categories of government expenditure, expenditures on government health insurance programs are the most progressively redistributive. See J.L. Nicholson, "Distribution and Redistribution of Income in the United Kingdom", in *Poverty, Inequality and Class Structure*, edited by D. Wedderburn (Cambridge: 1974), and, also, Central Statistical Office, "Effects of Taxes and Benefits on Household Incomes, 1975", *Economic Trends* (December 1976).

In this study, we will be using the same data source as underlies the Statistics Canada document. With the advice and assistance of the people responsible for the 1975 Survey of Consumer Finances, we have looked in more detail at the distribution of the benefits of the medical and hospital services in Canada, services that are generally covered by the medical care and hospital insurance programs. We also examine the distribution of the incurred costs of these programs, and compare this to the distribution of the benefits of this program.[15] The costs are considered as having been paid by family units through personal income taxes and premiums. It should be noted that although we used the same data source as Statistics Canada did for its publication, *Distributional Effects of Health and Education Benefits, Canada, 1974* (Catalogue No. 13-561), the adjustments of benefits and the imputation of costs were arrived at through our own methodology, for which, of course, we are responsible.

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15 The Survey only covered services that were insured under either the medical care or hospital insurance programs.

Chapter 3: The Patterns of Consumption of Health Services for Selected Socio-Economic Groups

The costs of the medical care and hospital insurance programs represented about 50 per cent of all health care costs in Canada in 1974;[16] this represents a total of around $4.8 billion, of which about two-thirds went to the hospital insurance program. These programs, with their considerable size and scope, have clearly changed the face of medical care in Canada, and a closer look at their effects, particularly their distributive effects, is warranted. In particular, we are interested in the patterns of consumption among family units or individuals classified by various characteristics (income, age, education level, occupation and others) that are associated with these programs. Data obtained in conjunction with the Survey of Consumer Finances treating 1974 permit an examination of these patterns.[17]

This study will cover two major types of consumption: that generally covered by medical insurance and that generally covered by hospital insurance. In the first category, whenever possible, we have isolated medical consultations in the doctor's

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16 Overall, expenditures by the public sector in the area of health made up 74 per cent of the total health care expenditures in Canada in 1974. The expenditures on health by the private sector were, in large part, for drugs and medical appliances, dentists' services, private-duty and Victorian-Order nurses, certain hospital services, private nursing homes, a small portion of the cost of physician services, and the services of other practitioners (e.g. chiropractors, naturopaths, osteopaths, podiatrists, and physiotherapists).

17 The 1975 Survey of Consumer Finances was directed at private non-institutional households in the ten provinces.

office, at home or in an emergency clinic or dispensary from in-hospital consultations.[18] The second category contains consumption of hospital services (with hospitalization) that may or may not involve surgery.

In 1974, care in institutions and specialized services resulted in expenditures of $5.2 billion; of this, $907 million was paid out under the provincial medical insurance plan (excluding payments for medical consultations for hospital patients) and $4,305 million was paid out for operating expenditures of hospitals and doctors' fees for providing medical services to hospital patients;[19] 71.4 per cent and 75.6 per cent of the value of these last two amounts were covered by the survey we used.[20] In general, we believe this survey provides a reasonably reliable picture of the distributive and redistributive aspects of Canada's health plans.

18 This subdivision of the services covered by medical insurance was done because the consumption of health services in hospital has a greater degree of absolute necessity than consumption in the doctor's office, for example. While this information is important in its own right, it will be particularly vital at a later stage of the analysis when studying matters in the light of opportunity cost theory.

19 These figures were computed by Health and Welfare Canada for the purposes of this survey and reflect only the net operating costs for health services. Depreciation costs, new investments, etc. are thus not included.

20 Various factors can explain why certain expenditures were not captured, but one of the main reasons, according to those who conducted the survey, is the details forgotten by the respondents. It should be remembered that the survey required details dating back as far as 16 months. An additional problem was that the survey accepted answers from any responsible member of the family for those persons absent during the interview.

Before beginning our analysis of the consumption of health services in terms of various socio-economic characteristics, we will first briefly review the regional differences in consumption levels for health services. This will also allow us to better relate the study to other objectives we could have established, such as analyzing regional variations in the behaviour of Canadians with respect to their medical delivery system, the quality and quantity of which is known to vary by region. This regional variation might be expected to result in regional differences in consumption levels or in the distribution of health services consumed under the medical or hospital insurance plans.

3.1 The Regional Patterns[21]

As can be seen from Table 3-1, there are notable regional differences in both the level and type of consumption (price differences between regions have been taken into account). Taking both programs together, family units in the Atlantic region have a higher average level of consumption under these programs than those in any one of the other regions, consuming 31 per cent more than the average per family unit for Canada. The Prairie region is the only other region where the level of consumption per family unit is higher than the average for the country. In British Columbia, on the other hand, the average level of consumption per family unit is the lowest among the

21 The material reported in the rest of this chapter and in Chapter 4 refers to the consumption of services generally covered by the medical care and hospital insurance programs. For simplicity of presentation, we have assumed that these services were indeed paid for under these programs.

regions -- 14 per cent below the average for Canada. When the programs are looked at individually, it can be seen that the Atlantic region and British Columbia differ considerably with respect to the relative use made of services. In the Atlantic region and British Columbia, the consumption per family unit under the medical care program (out-patient services) is the same as the average for Canada but under the hospital insurance program it is 37 per cent more in the Atlantic region and 27 per cent less in British Columbia. It is because the average health care costs per family unit incurred under the hospital insurance program are considerably larger for all regions than those incurred under the medical care program, and because British Columbia has the lowest and the Atlantic region the highest average costs per family unit under the hospital insurance program, that the overall costs per family unit for the two programs taken together are at opposite ends of the spectrum in British Columbia and the Atlantic region. As a final note, the Prairie region and the Atlantic region are the only regions where the consumption per family unit is more than the average for Canada under each of the programs individually (considering the medical care program as a whole).

Readjusted on a per capita basis (Table 3-2), certain aspects of the preceding results are slightly changed; the alteration of regional profiles is particularly because of interregional differences in family composition.[22]

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22 These differences in family composition apply not only to the regions but also to income brackets, occupational categories, etc. For this reason, we will use the per capita approach in the rest of the study except where the concept of the family unit is indispensable or may possibly provide additional information.

Table 3-1

CONSUMPTION OF HEALTH BENEFITS COVERED BY THE MEDICAL CARE
AND HOSPITAL INSURANCE PROGRAMS: AVERAGE PER FAMILY UNIT
BY REGION RELATIVE TO THE AVERAGE PER FAMILY UNIT FOR
CANADA, 1974[1]

	Benefits received under:			
	Medical care program		Hospital insurance program	Both programs
Region	Out-patient	Total		
Atlantic Region	1.00	1.17	1.37	1.31
Quebec	0.89	0.90	0.92	0.92
Ontario	1.09	1.03	0.98	1.00
Prairie Region	0.99	1.04	1.11	1.09
British Columbia	1.00	0.92	0.83	0.86
Canada	1.00	1.00	1.00	1.00

1 Regional price differences were taken into account in calculating
these indices.

Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

Table 3-2

CONSUMPTION OF HEALTH SERVICES COVERED BY THE MEDICAL CARE
AND HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL
BY REGION RELATIVE TO THE AVERAGE PER INDIVIDUAL FOR
CANADA, 1974[1]

	Benefits received under:			
	Medical care program		Hospital insurance program	Both programs
Region	Out-patient	Total		
Atlantic Region	0.84	0.99	1.16	1.10
Quebec	0.86	0.88	0.90	0.89
Ontario	1.12	1.06	1.01	1.03
Prairie Region	1.00	1.06	1.13	1.11
British Columbia	1.08	1.00	0.90	0.93
Canada	1.00	1.00	1.00	1.00

1 Regional price differences were taken into account in calculating
these indices.

Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

Ontario, the Prairie region and the Atlantic region
proved to have higher per capita consumption of health services
(considering both programs together) than the national average.
Quebec, on the other hand, came at the bottom, just below
British Columbia. Consumption habits under each of the health
plans again varied considerably between regions, however. In
British Columbia, for example, consumption of services outside
hospital centres was 8 per cent higher than the Canadian average
while consumption of hospital insurance services was much lower.
The Atlantic region, on the other hand, again registered the
opposite. We believe this suggests that consumption of health
services under one plan is perhaps somewhat inversely related
to consumption of health services under the other plan and that
as more services are provided in the doctor's office (these
being less expensive), fewer are consumed under the hospital
insurance plan. Two factors could account for this phenomenon.

Since the health of Canadians does not vary greatly
between regions and the differences in age-sex structures are
not considerable, we could view the consumption of medical
insurance services in a doctor's office as a sort of preventive
measure against advanced deterioration of one's health. By
consuming these services, a person could thus avoid, to a cer-
tain extent, a later consumption of hospital services. However,
to note a second possible factor, these interregional differences
could also arise from differences in the ease of access to
either plan, which may vary by province. We know, for example,
that British Columbia has a user fee that moderates the use of

hospital services; this might persuade the residents of this province to consume less of these services and compensate by making greater use of services in the doctor's office, which are covered by medical insurance. We also know that the balance between the physical availability of medical and hospital services is not identical in all regions. The results in Table 3-2 may very well reflect this situation.

While these factors deserve their own separate analysis, they are not treated further here. In this document, we will henceforth deal with the consumption of health services at the national level. Since this study deals with the distributive and redistributive aspects of the health plans, we will also continue to centre our analysis on the concept of total money income.

3.2 Level of Income and Consumption of Health Services

If we assume the less fortunate have poorer health than those who are well off, and that access to health services is no more difficult for one than the other, we can expect the former to consume more health services on a per capita basis than the latter. The results in Table 3-3 tend to confirm this assumption.

The figures presented in this table clearly reveal that as an individual's standard of living increases, his consumption of health services decreases. This observation on all health expenditures applies without exception, regardless of the level of income analyzed. More significantly, we find that this relationship applies even more to hospital care than to

medical care, particularly medical care received in a doctor's
office. Any hospitalization usually requires a doctor's con-
sent. It would thus appear from the results of this table that
the poor consume more health services than the rich, probably
because they have a greater need. These observations still
hold true when presented in terms of quintiles (Table 3-4)
rather than income brackets.

In this case (Table 3-4) the lowest income quintile
consumes 31.7 per cent and the highest income quintile only
13.2 per cent of the benefits of both programs taken together.
The same basic pattern holds when these programs are considered
separately; under the medical care program the lowest income
quintile consumes 28.8 per cent and the highest income quintile
14.8 per cent, while under the hospital insurance program the
lowest income quintile consumes 33.1 per cent and the highest
income quintile 12.4 per cent. In short, lower income indivi-
duals seem to have greater needs for medical and hospital care
than higher income individuals, and, at least to some extent,
these programs appear to be helping to fulfill these needs.

Several factors beyond the state of health per se
could also, however, account for the poor consuming more health
services on a per capita basis than the rich. The first and
most important is the demographic composition of the groups in
question. It is known that the consumption of health services
is closely linked to the physiological conditions of individuals
and that this condition is less stable in the elderly, a large
number of whom are found among the poor. This hypothesis can

Table 3-3

CONSUMPTION OF HEALTH SERVICES COVERED BY THE MEDICAL CARE AND HOSPITAL
INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY INCOME CLASSES
TO WHICH HIS FAMILY BELONGS RELATIVE TO THE AVERAGE FOR
CANADA, 1974

	Benefits received under:			
	Medical care program		Hospital insurance program	Both programs
Income classes	Out-patient	Total		
Less than 5,000	1.41	1.66	1.94	1.85
5,000 to 10,999	1.03	1.12	1.23	1.20
11,000 to 14,999	0.94	0.92	0.90	0.90
15,000 to 19,999	0.79	0.74	0.68	0.70
20,000 to 24,999	0.89	0.77	0.64	0.68
25,000 and over	0.81	0.72	0.61	0.64
Total	1.00	1.00	1.00	1.00

Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

Table 3-4

DISTRIBUTION OF HEALTH CARE BENEFITS RECEIVED UNDER THE MEDICAL CARE
AND HOSPITAL INSURANCE PROGRAMS ACROSS INDIVIDUALS ORDERED BY TOTAL
INCOME OF THEIR FAMILY UNIT AND DIVIDED INTO QUINTILES
CANADA, 1974

Benefits received under:	Quintiles[1]					
	First	Second	Third	Fourth	Fifth	Total
			(Per cent)			
Medical care program						
- Out-patient	25.2	20.3	18.7	19.0	16.9	100.0
- Total	28.8	22.0	18.0	16.4	14.8	100.0
Hospital insurance program	33.1	23.9	17.2	13.4	12.4	100.0
Both programs	31.7	23.3	17.4	14.4	13.2	100.0

1 All *individuals* are divided into five quintiles each representing 20
per cent of the total. The first quintile comprises individuals that
are part of those family units with the lowest total income, and the
fifth quintile comprises individuals that are part of those family
units with the highest total income.

Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

be illustrated clearly by relating the consumption of health
services to the age-sex structure of a population, as in the
following chart.

Chart 3-1

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY AGE AND
SEX·RELATIVE TO THE AVERAGE PER INDIVIDUAL FOR CANADA, 1974
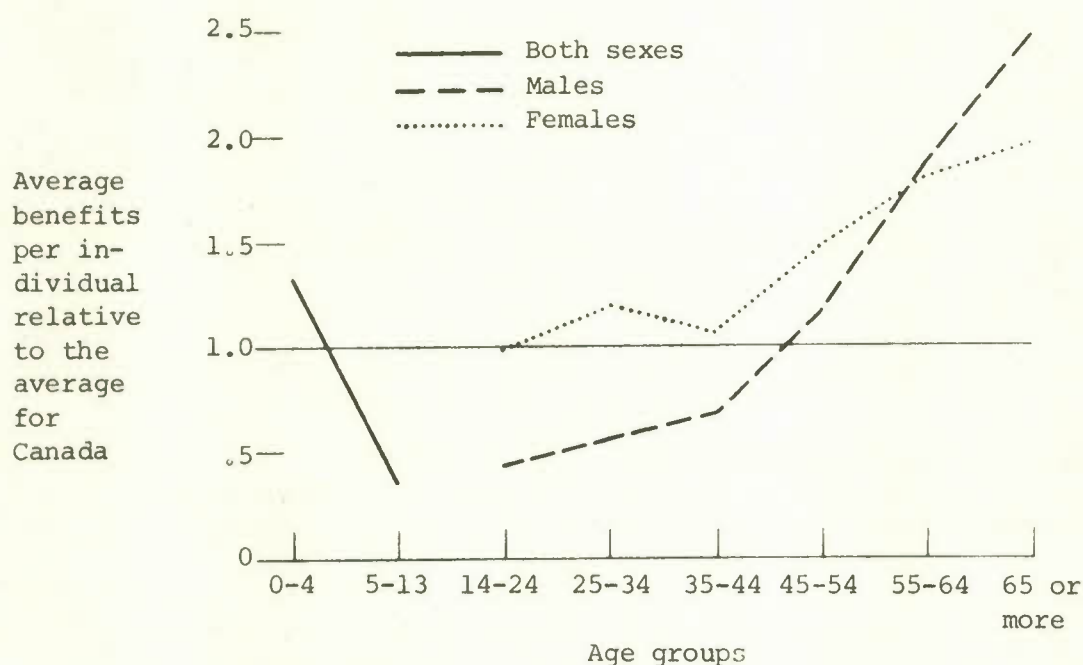
Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

As can be seen from Chart 3-1, which considers both
the medical care and hospital insurance programs together, people
in the age group 45 to 54 years or in older age groups consume
more on average than younger individuals. Children in the age
group 0 to 4 years, women in the groups aged 25 to 34 years or
more, and men in the groups aged 45 to 54 years or more all con-
sume more than the average per capita for Canada. Women consume

more per capita than men up to the group aged 45 to 54 years,
but beyond 55 years of age, men consume more than women (146
per cent more for men than the average for Canada versus 95 per
cent more for women in the age group 65 and over). The rela-
tively higher per capita consumption by women in the early
years is, in part, related to child-bearing.

Looking at the two programs separately (Table 3-5),
women consume more per capita than men under the medical care
program (all services) for all age groups, except the last one,
for which the disaggregation by sex is made, while under the
hospital insurance program, this is only true up to and including
those in the group aged 45 to 54 years; men in the older age
groups consume more per capita under this latter program than
do women -- 169 per cent more than the average for Canada for
men aged 65 years or more versus 102 per cent more for women in
the same age group.

While it is important to determine to what extent this
observation on the age-sex structure of individuals can explain
the high level of consumption of health services by the poor,
we must not forget that other factors could also affect the
level of consumption of health services. In this context, we
will be considering the individual's occupation or that of the
family head, and its possible impact on the family's lifestyle.
We will also examine the level of education of the consumers
of health services or the family head. Other factors likely
to affect the consumption of health services include the size
of the individual's family or the length of time the family

head must work to provide for the needs of his family: this
latter can directly affect his own consumption or that of his
dependents. These we will also be considering in what follows.
Finally, we will determine whether the consumption disparities
between rich and poor occur in all regions of Canada.

In the following pages, we will discuss each of these
individual factors. We will then return to consider briefly
the opportunity cost theory, which claims that the poor consume
more health services than the rich because, among other things,
these services cost them less.

Table 3-5

CONSUMPTION OF HEALTH SERVICES COVERED BY THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY AGE
AND SEX RELATIVE TO THE AVERAGE PER INDIVIDUAL FOR
CANADA, 1974

Age group (years)	Benefits received under: [1]					
	Medical care program				Hospital insurance program	
	Out-patient		Total			
	Males	Females	Males	Females	Males	Females
0-4	0.98		1.17		1.39	
5-13	0.66		0.48		0.29	
14-24	0.57	1.03	0.49	0.88	0.40	1.03
25-34	0.67	1.41	0.61	1.29	0.54	1.14
35-44	0.78	1.29	0.72	1.17	0.64	1.04
45-54	1.02	1.33	1.07	1.41	1.20	1.50
55-64	1.17	1.56	1.56	1.69	2.00	1.83
65 or more	1.36	1.63	1.98	1.81	2.69	2.02
Canada (total)	1.00		1.00		1.00	

1 For both programs together, see Chart 3-1.

Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

3.3 Consumption of Health Services as Related to Per Capita Income and Age Structure

While older individuals clearly consume more on aver-
age under the two government health programs than younger indi-
viduals, it is also true for any given age group that individuals

from lower income family units consume considerably more than
those from higher income family units. This can be seen from
Chart 3-2. Individuals belonging to family units for which the
total annual income is less than $5,000 ($20,000 or more) con-
sume more (less) under these two programs taken together for any
given age group than the average consumption per capita for all
individuals in that age group. Clearly, those who are members
of low income family units require more medical and hospital
care *at any particular age* than those belonging to family units
with high incomes. The conditions under which low income indi-
viduals live would not appear to result in a comparatively
healthy existence.

Chart 3-2

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY AGE AND
SELECTED INCOME GROUPS RELATIVE TO THE AVERAGE
PER INDIVIDUAL FOR CANADA, 1974
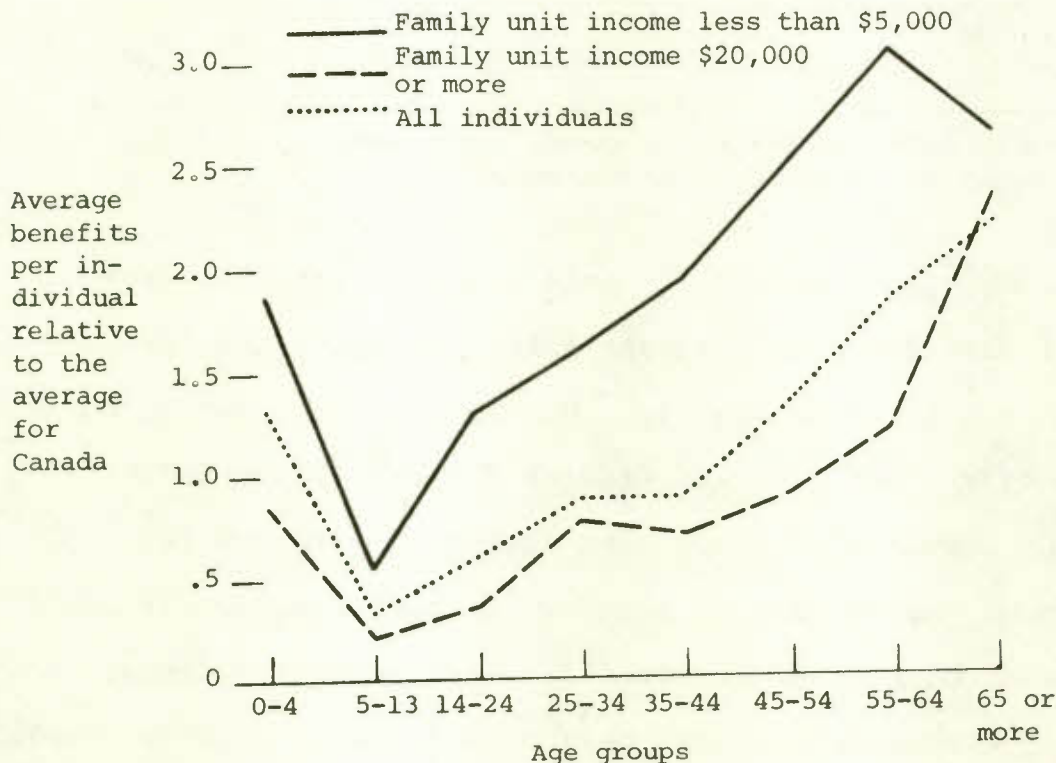
Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

3.4 Consumption of Health Services as Related to Per Capita Income and Family Size

Clearly, the average consumption of health services

per family depends largely on the size of the family. Table 3-6

clearly illustrates this situation.

Table 3-6

CONSUMPTION OF HEALTH CARE BENEFITS BY THE MEDICAL CARE AND HOSPITAL
INSURANCE PROGRAMS: AVERAGE PER FAMILY UNIT BY SIZE OF
FAMILY UNIT RELATIVE TO THE AVERAGE PER FAMILY UNIT FOR
CANADA, 1974

| Family unit size | Benefits received under: | | | |
| | Medical care program | | Hospital insurance program | Both programs |
	Out-patient	Total		
1	0.46	0.48	0.51	0.50
2	0.91	0.97	1.05	1.03
3	1.17	1.19	1.23	1.22
4	1.35	1.26	1.17	1.20
5	1.49	1.36	1.23	1.27
6 or more	1.58	1.55	1.51	1.52
Canada (all family units)	1.00	1.00	1.00	1.00

Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

Consumption per family unit tends to increase with

family unit size for both programs taken together, and for each

of the programs taken separately. However, it does not do so

proportionately. The observed figures for unattached individ-

uals are the result of two opposing factors -- the low level of

consumption of health care by young unattached individuals and

the high level of consumption by older unattached individuals.

The level of consumption by two-person families is roughly double

that of unattached individuals but, for both programs taken

together, the level of consumption for three-person and four-person families is only in average about 16 per cent above that for two-person families. This is because in most such families the third and fourth individuals are children, and the average level of consumption of children is relatively low.

However, the relationship between per capita consumption of health services, family income, and the size of the family to which the individual belongs deserves our particular attention. This factor interests us here because, in theory, the elderly tend to belong to families of one or two individuals. For this relationship, we would then expect, a priori, that per capita consumption of health services among those belonging to small families who are poor will be much higher than for individuals in the same income bracket living in larger families. The same relationship should also be found among the better-off, but at a different level. The results in Chart 3-3 are revealing.

We first note that the per capita consumption of health services by the poor is, indeed, actually greater in families of one or two individuals than in larger families. Among the better-off, however, per capita consumption is greater in families of three individuals than for other larger or smaller units. These units probably include a child in most cases. Nonetheless, in all families with four or less members, per capita consumption of health services is greater among the low income group than in the high income group or among all Canadians in general. Another interesting aspect that does not appear in this chart is that regardless of family size, the poor always consume more hospital services than medical services relative to the better-off.

Thus, with family size taken into account, these sur-
vey data still suggest that the poor utilize more services and
have a greater need for services than the better-off. We will
now determine whether this hypothesis also holds true on the
basis of education.

Chart 3-3

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY FAMILY
SIZE AND SELECTED INCOME GROUPS RELATIVE TO THE AVERAGE PER
INDIVIDUAL FOR CANADA, 1974
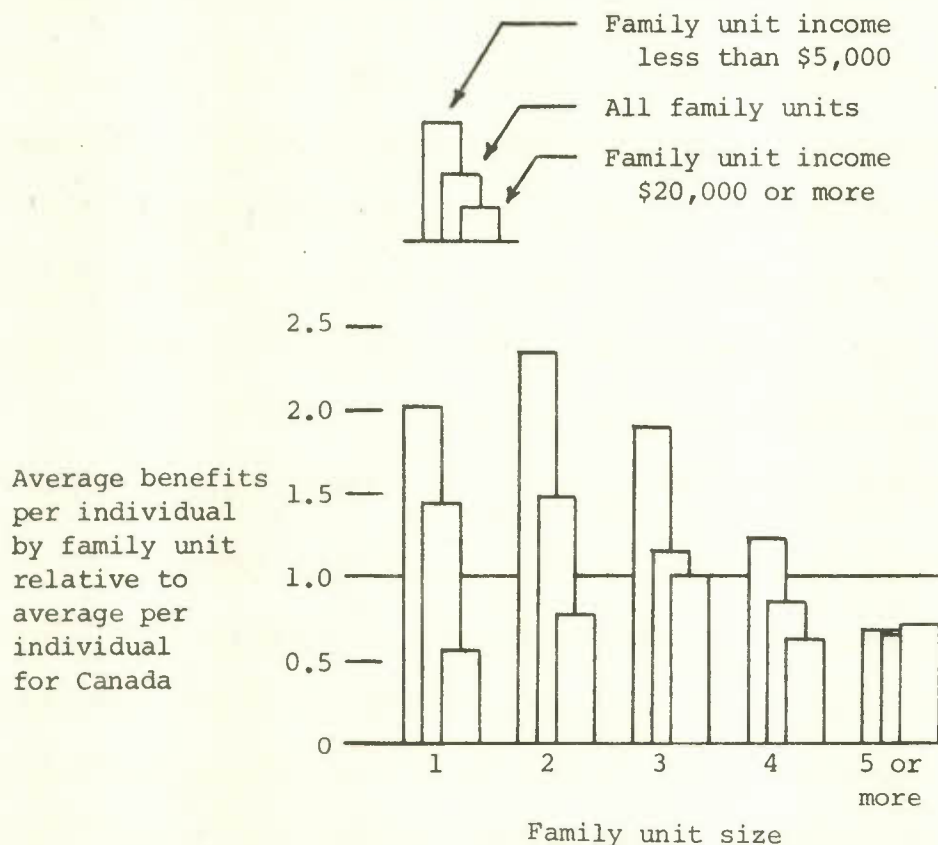
Family unit income
less than $5,000

All family units

Family unit income
$20,000 or more

Average benefits
per individual
by family unit
relative to
average per
individual
for Canada

Family unit size

Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

3.5 Consumption of Health Services as Related to Income and
Level of Education of Individuals and Family Heads

One hypothesis claims that the level of education
affects consumption of health services because "education leads
to substitution of self-care, increased rise of preventive

measures, and elimination of unnecessary ambulatory services".[23]

The results obtained in the Statistics Canada survey tend to support this hypothesis. Chart 3-4 shows, in effect, that consumption of health services decreases regularly as level of education increases -- except for category 5 (some university) which probably includes individuals still attending university and therefore in the prime of life and requiring fewer health services than the other categories, which probably have a more diversified age structure.

It is important to note, in relation to our present discussion, that regardless of the level of education, individuals in low income families consume more health services than individuals in high income families (except those in category 7 (university degree or diploma) where consumption per capita is almost the same for both groups).

In this chart, each individual is given his own level of education rather than that of the head of the family to which he belongs. Children with no education are thus found in category 1 (less than 7 years schooling). In order to better illustrate the impact of the family environment, we will reconstruct this chart using the level of education of the family head rather than the level of education of each individual (Chart 3-5).

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23 Holahan, J.; "Physician availability, Medical Care Reimbursement, and Delivery of Physician Services: Some Evidence from the Medicaid Program", *The Journal of Human Resources*, Vol. X, No. 3, Summer 1975.

Chart 3-4

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY LEVEL
OF EDUCATION AND SELECTED FAMILY UNIT INCOME GROUPS RELATIVE
TO THE AVERAGE PER INDIVIDUAL FOR CANADA, 1974[1]

Family unit income
less than $5,000

All family units

Family unit income
$20,000 or more

Average benefits
per individual
relative to
average for
Canada

Education

1 - Less than 5 years schooling
2 - 5 to 8 years schooling
3 - Some secondary school
4 - Secondary school completed
5 - Some university
6 - Other post secondary
7 - University degree or diploma
8 - Other
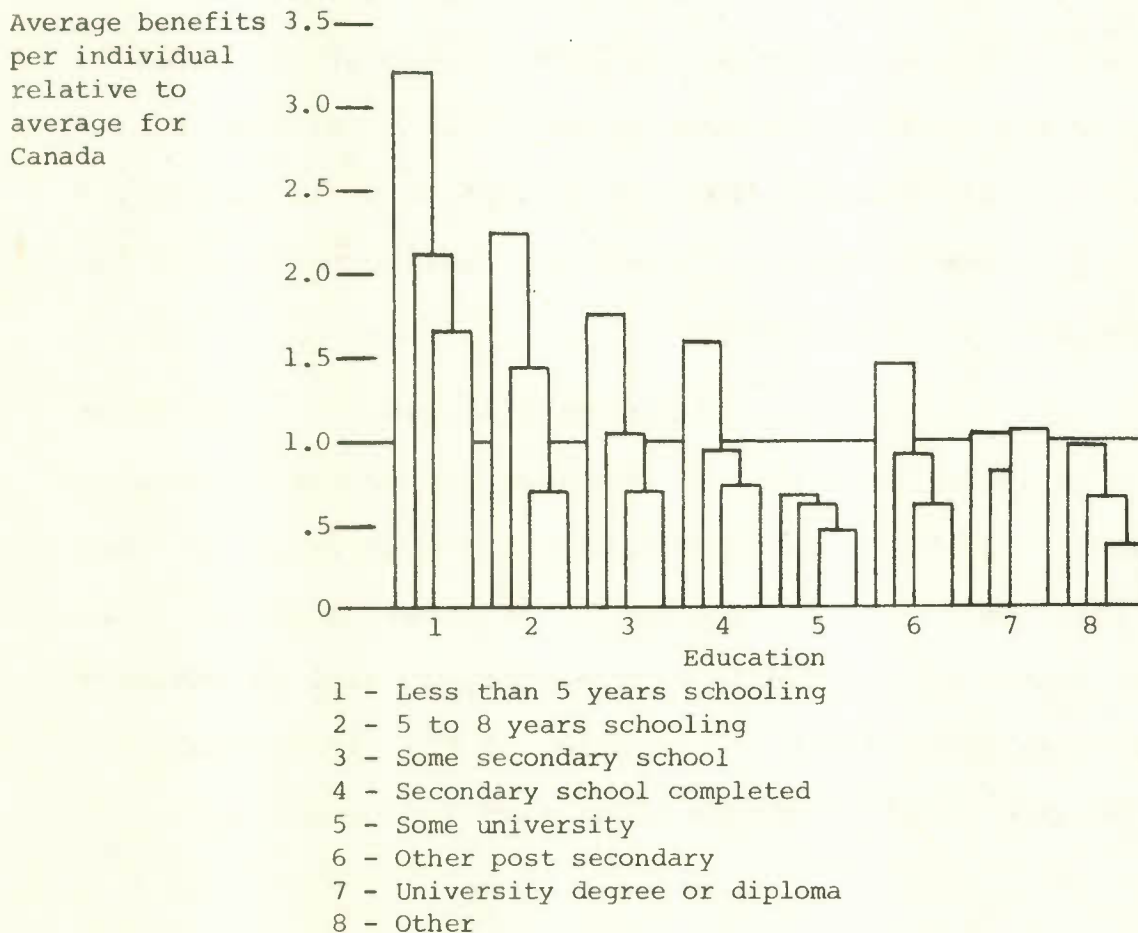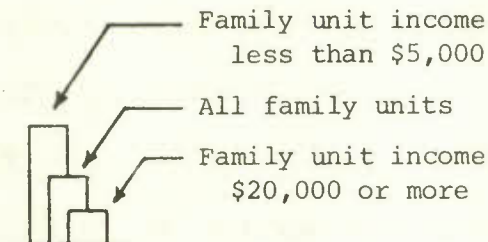
1. The selected income classes shown in this chart are made up of
   individuals who are members of family units for which the total
   annual income, in one case, is less than $5,000 and, in the other,
   more than $20,000.

Source: Based on data from Statistics Canada (1975 Survey of Consumer
          Finances) and estimates by the authors.

Chart 3-5

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY EDUCATION
OF HEAD OF FAMILY UNIT AND SELECTED FAMILY UNIT INCOME GROUPS
RELATIVE TO THE AVERAGE PER INDIVIDUAL FOR CANADA, 1974

1 - Less than 5 years schooling
2 - 5 to 8 years schooling
3 - Some secondary school
4 - Secondary school completed
5 - Some university
6 - Other post secondary
7 - University degree or diploma
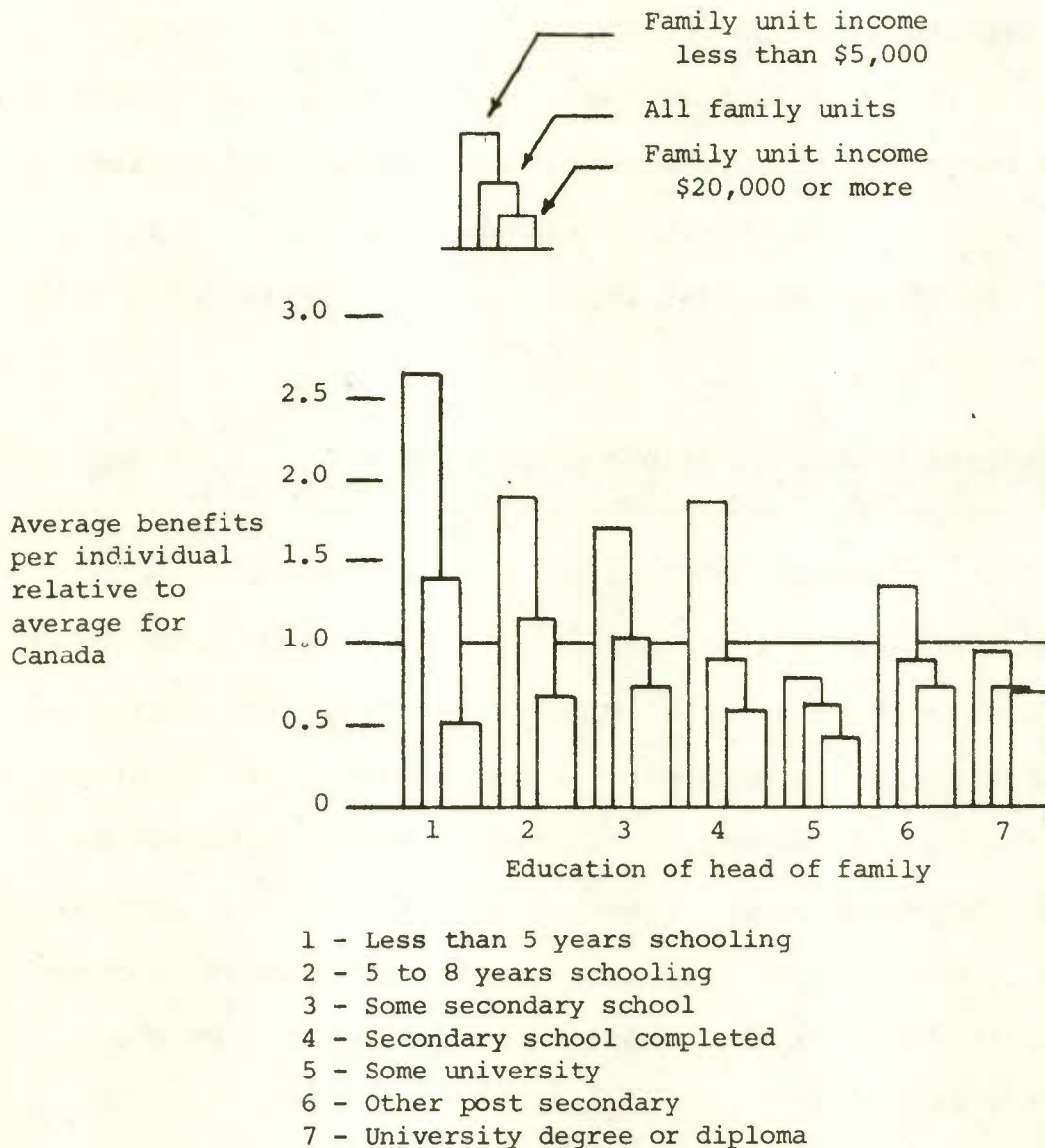
Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

We again find that the level of education affects the consumption of health services but that this relationship is very weak and ambiguous in the high income brackets, which would tend to support the hypothesis that a family's standard of living influences the consumption of health services more than the level of education per se. In other words, once a family has reached a certain level of income, the family head's level of education has little effect on the consumption of health services. In the low income brackets, however, the opposite holds true. This again tends to confirm our original observations that income has one of the greatest impacts on consumption of health services.

3.6 Consumption of Health Services as Related to Income and Occupation Held by Individuals or the Family Head

The consumption of health services might also be linked to an individual's occupation or that of the family head. In the first instance, we might expect workers in the most dangerous categories (such as mining, transportation and construction) to make more frequent use of health services than those in the less dangerous occupational categories (liberal professions, office work, etc.). Chart 3-6 shows per capita consumption for individuals in the labour market; those not in the labour market were placed in the last three categories. The above-noted hypothesis cannot be clearly verified.

However, we once again note in this chart that regardless of their occupation, high income workers always consume far fewer health services than low income workers (except among

"professionals") and also consume less than the national average
(except in the "managerial" category). Furthermore, variations
in consumption of health services between occupational categories
among high income workers are small compared to variations among
low income workers.

Chart 3-6

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY OCCUPATION
AND SELECTED FAMILY UNIT INCOME GROUPS RELATIVE TO THE
AVERAGE PER INDIVIDUAL FOR CANADA, 1974

1 - Managerial
2 - Professional
3 - Clerical
4 - Sales
5 - Services
6 - Farming, fishing, hunting, etc.
7 - Mining

8 - Product fabricating
9 - Construction
10 - Transport
11 - Head, not in labour force
12 - Wife, not in labour force
13 - Other, not in labour force
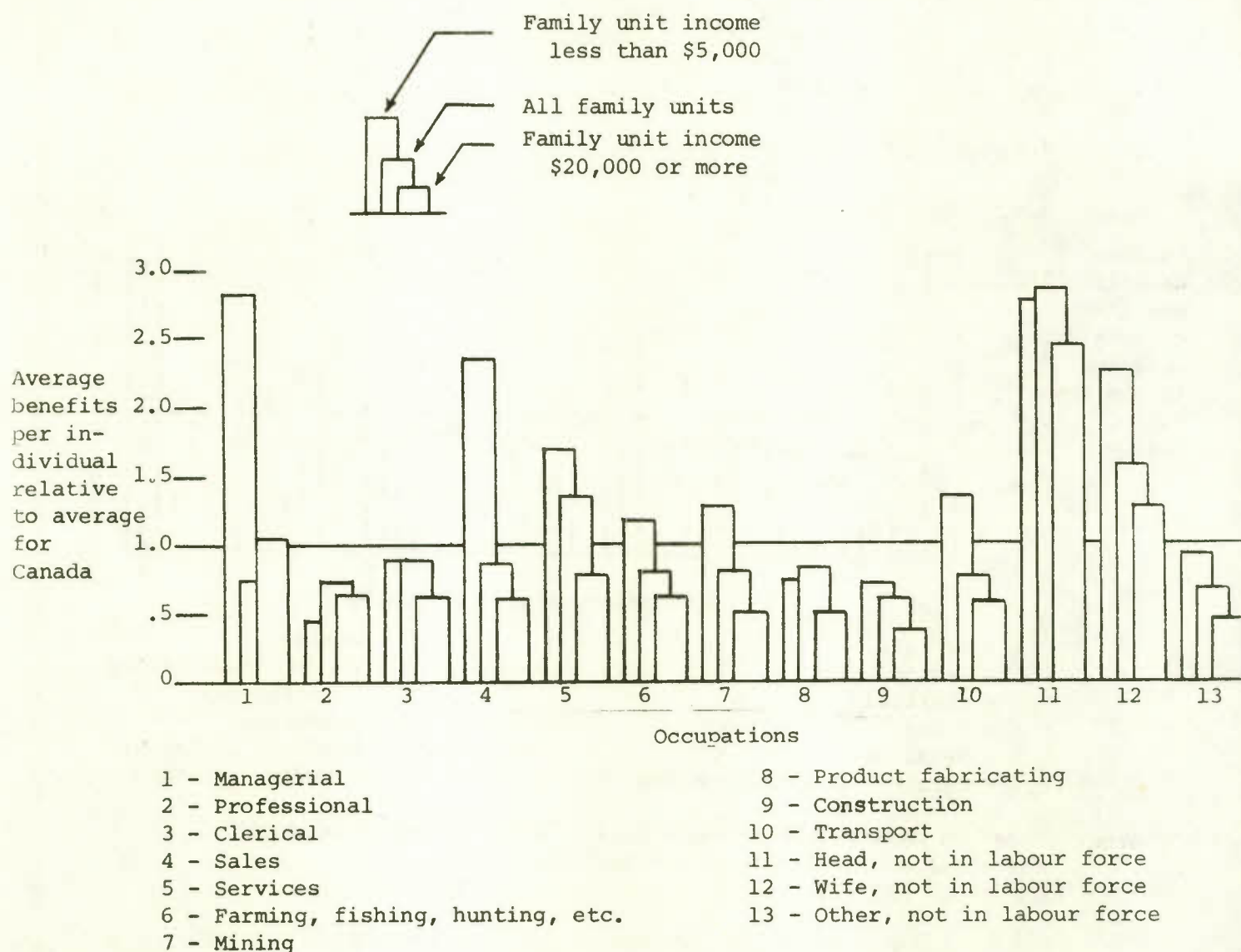
Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

We thus find once again that income has a greater impact on the consumption of health services than other socio-economic characteristics.

Chart 3-7

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY OCCUPATION
OF HEAD OF FAMILY UNIT AND SELECTED FAMILY UNIT INCOME GROUPS
RELATIVE TO THE AVERAGE PER INDIVIDUAL FOR CANADA, 1974

1 - Managerial
2 - Professional
3 - Clerical
4 - Sales
5 - Services
6 - Farming, fishing, hunting, etc.

7 - Mining
8 - Product fabricating
9 - Construction
10 - Transport
11 - Head not in labour
       force and other

Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

If we carry the analysis to the family level and examine the impact of the family head's occupation on per capita consumption of health services, we again reach the same essential

conclusions. Regardless of the family head's occupation, with
a slight exception among "clericals", individuals in the
wealthier families consume fewer health services than those in
low income families (Chart 3-7).

3.7 Consumption of Health Services as Related to Income and Length of Work of Individuals or Family Head

In addition to what was said for occupation, a longer
period of work on an annual basis might be expected to exert
more pressure on workers, expose them to greater risk and thus
increase the likelihood of them using health services. We find
in Chart 3-8, however, that the opposite generally holds true:
the more an individual works, the less use he makes of health
services (that is, those with poorer health work a good deal
less). It is also very interesting to note here that the dis-
parity in consumption between high and low income workers is
very small among those who work year-round. These results would
tend to support the hypothesis that short-term workers may often
suffer a health problem which limits their ability to work,
directly increasing their need for health services, and indi-
rectly increasing these needs as well because their lower income
forces them to live in conditions less favourable to good health.
This last point emerges from the observation that high income
workers working short periods use considerably fewer health
services than low income workers also working short periods.

We further note in Chart 3-9 that the shorter the
family head's period of work, the higher the per capita consump-
tion of health services by the individuals in his family. Also,

Chart 3-8

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY LENGTH
OF WORK AND SELECTED FAMILY UNIT INCOME GROUPS RELATIVE TO
THE AVERAGE PER INDIVIDUAL FOR CANADA, 1974

Family unit income
less than $5,000

All family units

Family unit income
$20,000 or more

Average benefits
per individual
relative to
average for
Canada

2.5 —
2.0 —
1.5 —
1.0 —
.5 —
0

Length of work

1 2 3 4

1 - 0 weeks
2 - 1-39 weeks
3 - 40-48 weeks
4 - 49-52 weeks
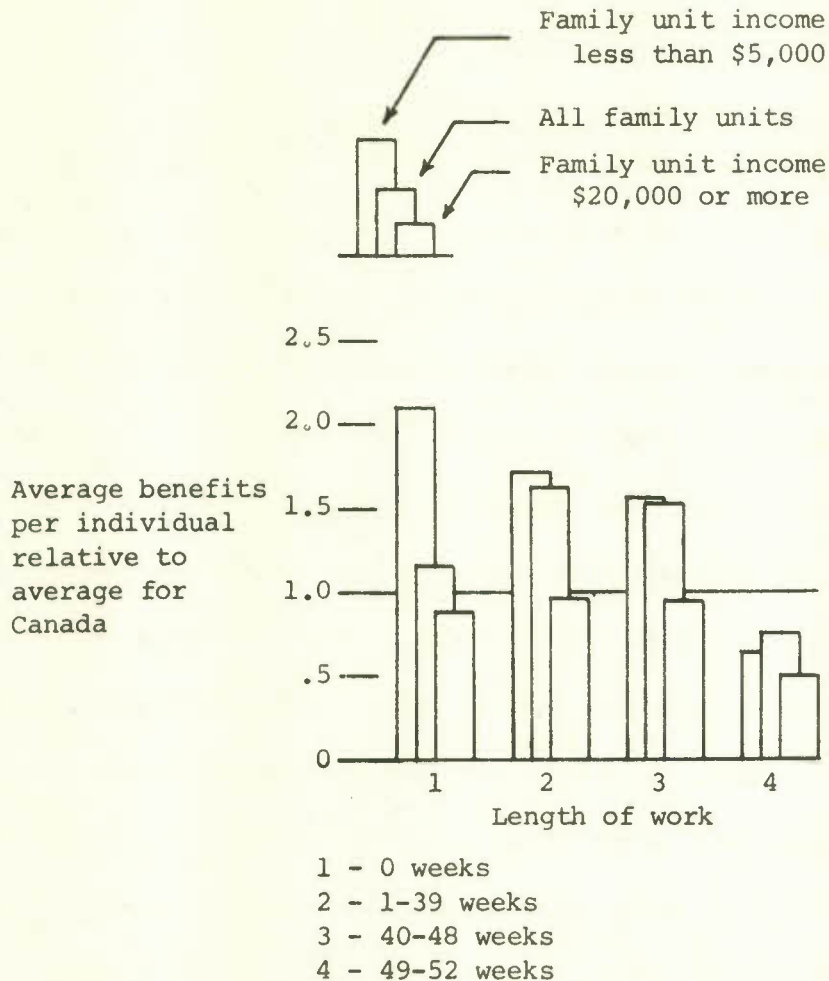
Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

in this same chart, we see that in the category of individuals

whose head of family did not work during the year, consumption

of health services varies less between income brackets than for

those whose head of family did. The explanation here would be

that this category includes a high number of the elderly indi-

viduals. Their needs are thus more substantial, but a consump-

tion disparity favouring low income families still persists.

Chart 3-9

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY LENGTH
OF WORK OF HEAD OF FAMILY UNIT AND SELECTED FAMILY UNIT INCOME
GROUPS RELATIVE TO THE AVERAGE PER INDIVIDUAL FOR CANADA, 1974

Family unit income
less than $5,000

All family units

Family unit income
$20,000 or more

Average benefits
per individual
relative to
average for
Canada

Length of work of head of family

1 - 0 weeks
2 - 1-39 weeks
3 - 40-48 weeks
4 - 49-52 weeks
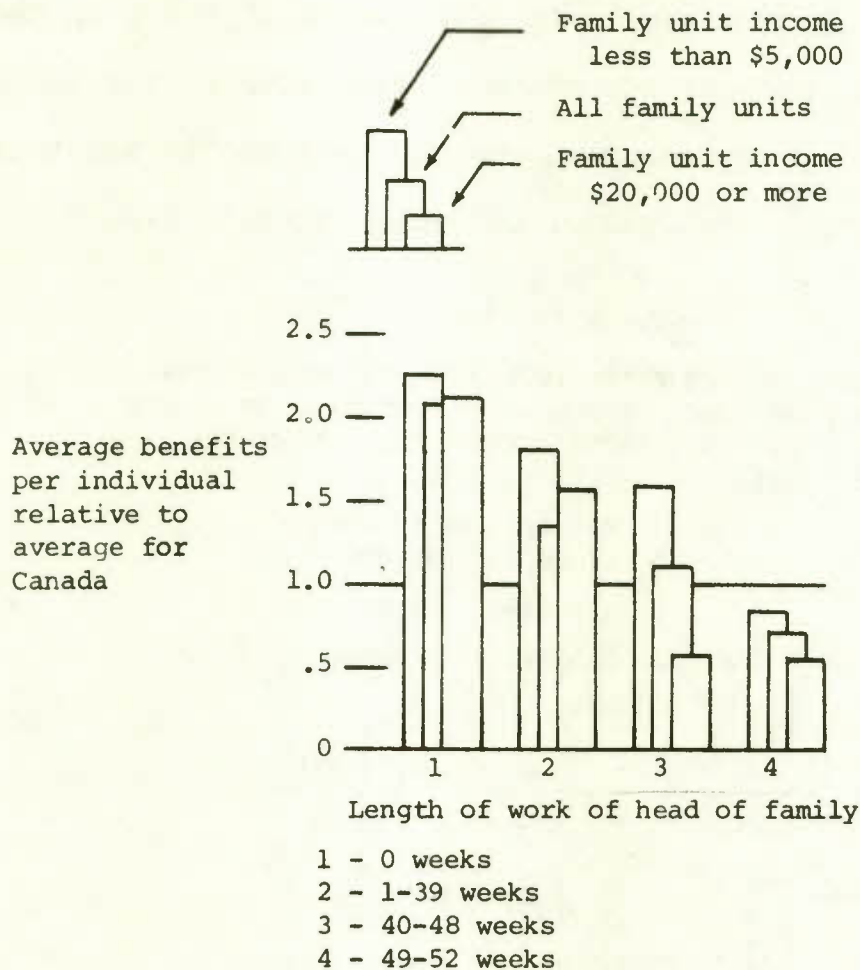
Source: Based on data from Statistics Canada (1975 Survey of Consumer
         Finances) and estimates by the authors.

3.8 Per Capita Consumption of Health Services as Related to Income and Regions

To end this descriptive analysis, we will now determine
whether the conclusion drawn from all these factors, that better-
off individuals consume fewer health services than poor, holds
true in each of Canada's five regions.

A glance at Chart 3-10 erases any doubt that this observation is valid in each of Canada's regions. As well, the interregional variations in consumption levels observed at the beginning of this chapter appear to hold generally for both the better-off and for the less advantaged. Individuals from Quebec and British Columbia, for example, consume less health services on average than other Canadians of the same income class.

Chart 3-10

CONSUMPTION OF HEALTH CARE BENEFITS UNDER BOTH THE MEDICAL CARE AND HOSPITAL INSURANCE PROGRAMS: AVERAGE PER INDIVIDUAL BY REGION AND SELECTED FAMILY UNIT INCOME GROUPS RELATIVE TO THE AVERAGE FOR CANADA, 1974[1]
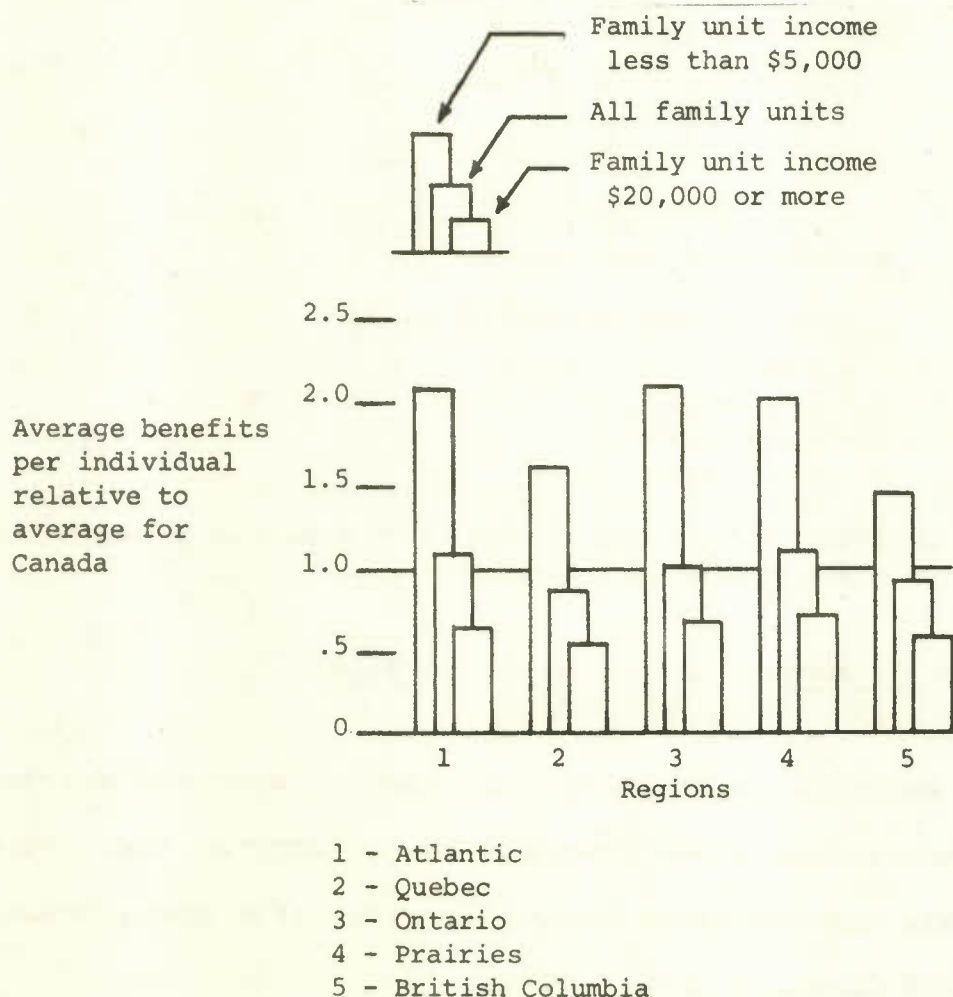
Family unit income less than $5,000

All family units

Family unit income $20,000 or more

Average benefits per individual relative to average for Canada

Regions

1 - Atlantic
2 - Quebec
3 - Ontario
4 - Prairies
5 - British Columbia

1 Regional price differences were taken into account in calculating these indices.

Source: Based on data from Statistics Canada (1975 Survey of Consumer Finances) and estimates by the authors.

3.9 Consumption of Health Services and Opportunity Costs

The opportunity cost theory suggests that, *ceteris paribus*, consumption of health services of a given amount, taking a given time -- in a doctor's office, in hospital or elsewhere -- may be more costly for an individual earning a high inco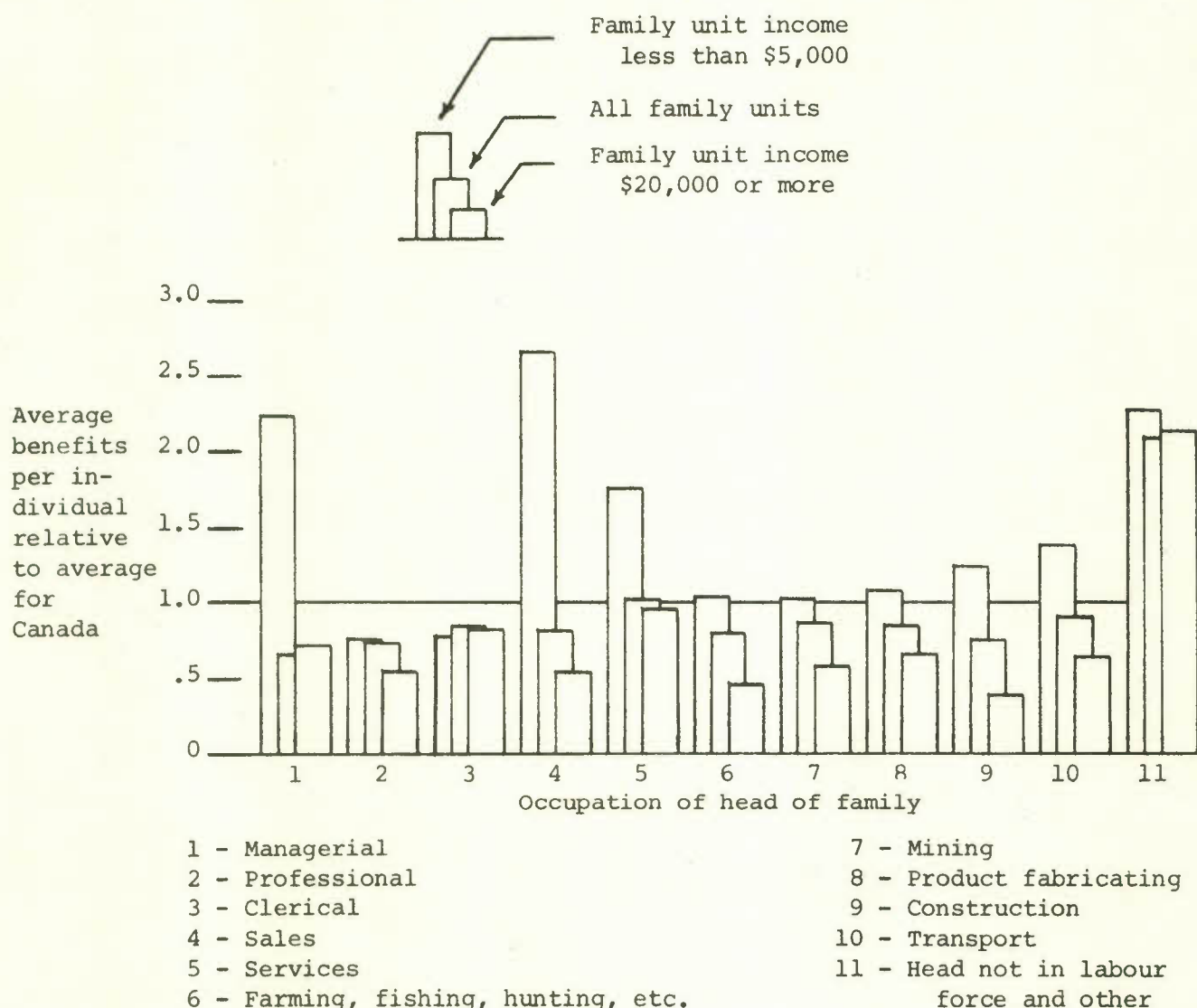me than for one earning a low income. This might explain why the consumption of health services is higher among women than men, and among the poor than among the better-off.

This is a very interesting hypothesis. It has often been proposed by researchers analyzing the consumption of health services. However, it apparently has never truly been tested against the reality, due to an obvious lack of sufficient data on the socio-economic characteristics of consumers that would make it possible to respect the *ceteris paribus* restriction as much as possible.

In other words, to compare this theory with reality, we would have to standardize all individuals in terms of a certain number of socio-economic characteristics (other than income) most likely to affect the level of consumption of health services. Age[24] and sex[25] in particular, among the other factors just discussed, come to mind here.

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24 The elderly are often found in the lowest income quintile. They should be analyzed separately or should be eliminated from the analysis since we may assume that their need for health services is much more physiological than for any other income bracket and is much more absolute. In the face of this necessity, opportunity cost plays a smaller role.

25 Particularly as relates to a woman's child-bearing years, during which absolute necessity again plays a role.

We do not possess all the data necessary to accurately verify this hypothesis. Nonetheless, we can raise two points related to it. The first is theoretical, the second empirical.

1. It is true, by definition, that the length of time taken by the poor in consuming a particular health service represents, from a strict point of view, a lower (dollar) value than is the case for the same service for the better-off. The money used in both cases is the same, but for the individual himself, the real value of the dollar varies according to the income bracket to which he belongs. The "small amount" of money that the poor individual forfeits by consuming a health service might very well have an equal or almost equal value within his budget limits (or his utility function) than the higher value forfeited by the better-off individual whose budget constraints are different.

In other words, to thoroughly test the hypothesis suggested by opportunity cost theory, we would have to approach it from the angle of costs relative to budgetary constraints in the income bracket to which an individual belongs, rather than in absolute terms, which do not consider the budgetary constraint applicable to each income bracket. This has never been done and would prove extremely difficult. Consequently, even if, after standardizing to account for a certain number of socio-economic factors likely to influence the consumption of health services, we again find greater consumption of health services among the poor, we still would not necessarily have demonstrated fully the applicability of the opportunity cost theory.

2. When we deal with the consumption of health services, it is important to separate this consumption into two major types of services. The first is consumption of services in a doctor's office, at home or in a dispensary, while the second is the consumption of services in a hospital environment in-volving hospitalization. In the first, the individuals who consume may not all be ill, while in the second case they all, presumably, are ill.

The consumption of services in a hospital environment involves a much greater absolute need than consumption of ser-vices in a doctor's office. It is the gravity of the illness rather than the opportunity cost that affects the former, par-ticularly since hospitalization requires a doctor's consent. Consumption in a doctor's office can be different, and may possibly be better suited to opportunity cost theory, since individuals have more latitude in deciding whether to consume the service or not. When studies emphasize that the poor con-sume more health services than the better-off, they tend to refer to all health expenditures, rather than to either one of these two categories.

The data available allowed us to separate these two categories. We found that the poor, regardless of age, consumed more services in hospital on a per capita basis than the better-off. They also consumed more services in a doctor's office than the better-off, but the difference was much smaller than in the first case. The poor probably consume more health services, therefore, because they are in greater need of them than the

better-off. If we assume that one of the main methods of diag-
nosing illness is through a visit to a doctor's office (that
is, by consuming medical insurance), we can conclude that if
the poor consumed more medical insurance than the better-off,
they might also consume more hospital insurance than the better-
off in the short run if, in fact, as the first results seem
to indicate, the occurrence of illness is higher among the poor
than among the better-off.

On the other hand, it is quite possible that the ser-
vices offered by the medical insurance plan involve a high
degree of prevention. If the poor made greater use of these,
at least before the illness required hospitalization, their
consumption of hospital services might be less over the long
term.

By retaining the opportunity cost theory to explain
the greater consumption of health services by the poor than by
the better-off, without strict empirical proof, we run the risk
of disguising the fact that the poor are less healthy than the
better-off.

Another aspect to consider is that a certain number
of factors may make health services more difficult to obtain
for the poor than the better-off. For example, the better-off
probably find it easier to leave work for a doctor's appointment
without losing pay, because the better-off individual is more
often a salaried worker, while the poor individual is often a
worker paid on an hourly basis, who is tied more closely to his
work and is liable to suffer an immediate loss of earnings if
he sees the doctor and is unable to make up the lost time.

Similarly, the better-off probably have more fringe benefits than the poor: sick leave, special leave, group insurance, etc. Thus, they again find it easier to access health services. Additionally, other types of costs can make access to health services more difficult for the poor; one of these is transportation.

In brief, all indications are that the poor consume more health services than the better-off because, physically, they require them, not because it is somehow less costly for them to do so.

Chapter 4: The Redistributive Impact of Government
Health Care Programs in Canada

One important question that should be considered in evaluating the impact of any major government program -- particularly those that apply to the entire population or a significant portion of it (e.g., the labour force) -- is the extent to which the program's net effects are progressively or regressively redistributive relative to the distribution of income among family units or individuals. This question remains an important one whether or not one of the stated objectives of the program is to create a particular type of redistribution. We have examined the medical care and hospital insurance programs from this viewpoint.

This type of analysis generally uses the family unit as a basis for measuring the redistributive aspects of a social program. Health care is a special case, however, because while the public medical care and hospital insurance programs are financed on the basis of the family unit, either through premiums or income tax,[26] consumption occurs on a personal basis and is

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26 Direct contributions to the medical care program from family units are found in the form of premiums in four of the provinces, and are calculated from the premium rates. The four provinces are Quebec, Ontario, Alberta and British Columbia. The contributions to the medical care program in the six other provinces are calculated for each family unit as follows. The proportion that the federal expenditures on the program in question represents with respect to all federal government expenditures is applied against the federal income tax paid by the family unit. Then, for the province in which the family unit resides, the proportion that the provincial expenditures on the program in question represents with respect to all provincial government expenditures is applied against the provincial income tax paid by the family unit. For the hospital insurance program and for the medical care program in the six provinces which have no premiums the sum of these two payments represents the contribution of the family unit to the programs in question. These are only contributions paid through income tax alone. Contributions paid through other taxes are ignored. For details, see the appendix.

therefore not linked in any way to the size of the family to which the consumer belongs. This must be taken into consideration in the following analysis.

4.1 Consumption of Health Services by Quintiles Across Economic Families

Family units with low total incomes consume about as much per unit on average, taking both programs together, as those units with middle or higher total incomes (Table 4-1). However, under the medical care program (out-patient services), the quintile of family units with the highest total income (the highest 20 per cent) consumes 23.6 per cent of the expenditures under this program, while the quintile with the lowest total income consumes only 15.8 per cent. Under the hospital insurance program, the inverse occurs; the highest income quintile consumes only 16.8 per cent while the lowest income quintile consumes 21.7 per cent.

If, rather than ordering family units by their income, we instead order individuals on the basis of their family's income and then measure consumption by quintile, the resulting picture is quite different, as was seen in an earlier table (Table 3-4). From this earlier table, we learn that the lowest quintile, in fact, consumes 31.7 per cent, while the highest quintile consumes only 13.2 per cent, less than half as much. It should also be noted that the decrease in consumption between the lowest and highest quintiles is steady and continuous. By contrast, the overall consumption in Table 4-1 was almost identical in all quintiles, with only a certain variation between the two plans.

This apparent contradiction between the two tables results essentially from the fact that, although each quintile in the first table contains 20 per cent of the families studied, each 20 per cent does not necessarily contain families with the same number of members, since the average size may vary considerably between quintiles. For example, we know perfectly well that the lowest quintile has many more single persons or families with two members, either old or young, than any other quintile.

This particular aspect must be remembered when we compare those who finance with those who benefit, in order to determine whether a group contributes proportionally less, more, or the same as it consumes.

The size of family aspect can be taken into account by presenting the consumption benefits associated with each of the quintiles and programs in Table 4-1 on a per capita basis.[27] The results obtained can be comparable with those to be obtained in dealing with the financing aspects of the plans, where once again we will adjust the information to a per capita basis and where each quintile will again contain the same number of families. This method of presenting consumption of health services is shown in Table 4-2.

This table makes it even clearer that low income individuals consume more health services than those with high incomes. In the case of (total) medical insurance, the first

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27 The information on the average number of members by family for each quintile comes from unpublished data from the 1975 Survey of Consumer Finances of Statistics Canada.

Table 4-1

DISTRIBUTION OF HEALTH CARE BENEFITS RECEIVED UNDER THE MEDICAL CARE
AND HOSPITAL INSURANCE PROGRAMS ACROSS ECONOMIC FAMILIES
ORDERED BY TOTAL INCOME AND DIVIDED INTO QUINTILES
CANADA, 1974

Benefits received under:	Quintiles[1]					
	First	Second	Third	Fourth	Fifth	Total
			(Per cent)			
Medical care program						
- Out-patient	15.8	17.2	20.1	23.2	23.6	100.0
- Total	18.6	19.7	20.4	20.9	20.4	100.0
Hospital insurance program	21.7	22.7	20.7	18.2	16.8	100.0
Both programs	20.7	21.7	20.6	19.0	18.0	100.0

1 All family units are divided into five quintiles each representing 20
   per cent of the total. The first quintile comprises family units with
   the lowest total incomes, and the fifth quintile comprises family
   units with the highest incomes.

Source: Based on data from Statistics Canada (1975 Survey of Consumer
         Finances) and estimates by the authors.

Table 4-2

DISTRIBUTION ON A PER CAPITA BASIS OF HEALTH CARE BENEFITS RECEIVED UNDER
THE MEDICAL CARE AND HOSPITAL INSURANCE PROGRAMS ACROSS ECONOMIC
FAMILIES ORDERED BY TOTAL INCOME AND DIVIDED INTO QUINTILES,
CANADA, 1974

Per capita benefits received under:	Family Unit Quintiles					
	First	Second	Third	Fourth	Fifth	Total
	(dollars)					
Medical care program						
- Out-patient	45.79	33.30	30.90	29.82	27.53	32.44
- Total	101.39	71.74	58.98	50.53	44.77	61.01
Hospital insurance program	242.77	169.67	122.83	90.30	75.66	125.21
Both programs	344.16	241.41	181.81	140.83	120.43	186.22

Source: Based on data from Statistics Canada (1975 Survey of Consumer
         Finances) and estimates by the authors.

quintile consumes 126 per cent more than the last. For hospital insurance, individuals in the first quintile consume over three times the health services on a per capita basis than those in the last quintile. We have already mentioned that the first quintile contains a higher proportion of elderly. Thus, these observations come as no surprise. Nonetheless, we do find that the fourth, third and second quintiles consume progressively more on a per capita basis relative to the highest quintile, while, at the same time, we know that they contain relatively greater proportions of older people compared to the first quintile. Consequently, the conclusion to be drawn from this table is that medical and hospital insurance plans apparently effect a distribution of income to the less advantaged through the consumption of services, and that the poorest benefit most.

4.2 The Financing of Government Health Insurance Programs by Quintiles Across Economic Families[28]

We said that one of the most important aspects to consider in evaluating major government programs is their progressive or regressive effect on income distribution among families and individuals. The consumption of services alone is insufficient to analyze this facet since it does not take into account who pays for these services. If people paid out what they received in services, the system would be distributionally neutral. Such, however, is not the case for the government health care programs. Not only do low income family units, regardless

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28 Included in this analysis is only that portion of the financing that comes from premiums and personal income tax.

of size, consume more health services per capita than high income family units, they also contribute much less to the financing of these programs.

As Table 4-3 illustrates, the two health insurance programs, when considered in light of the preceding information on consumption, are clearly progressively redistributive. Family units in the lowest income quintile contribute 1.0 per cent of the total financing of these two programs while highest income quintile of family units contribute 47.6 per cent.

However, while high income family units contribute much more than low income family units to the financing of health insurance programs, we must not forget that their ability to pay is also clearly greater. The last two lines in Table 4-3 allow us to illustrate this facet of financing.

We can see that the lowest income family units contribute smaller amounts, relative to their "ability to pay", than the better-off. These less advantaged families thus benefit from the existence of the government health insurance plans in that low income individuals consume more health services under these plans than those with higher incomes and that their family units contribute relatively smaller amounts to the financing of these programs. To a lesser extent, this situation also holds for those family units in the second and third quintiles. Clearly, the family units in the higher income quintiles (the fourth and the fifth) must compensate for this situation. As can be seen from the table, their contribution is greater relative to their ability to pay.

Table 4-3

DISTRIBUTION OF THE CONTRIBUTION FROM FAMILY UNITS TO THE MEDICAL CARE AND
HOSPITAL INSURANCE PROGRAMS ACROSS ECONOMIC FAMILIES ORDERED
BY TOTAL INCOME AND DIVIDED INTO QUINTILES,
CANADA, 1974[1]

| Contribution to | Quintiles | | | | | |
	First	Second	Third	Fourth	Fifth	Total
Medical care program[2]	1.6	9.8	19.7	27.5	41.4	100.0
Hospital insurance program[3]	0.3	5.2	14.1	24.1	56.3	100.0
Both programs	1.0	7.9	17.4	26.1	47.6	100.0
Distribution of total income	4.0	10.9	17.7	24.9	42.5	100.0
Ratio of contribution to the ability to pay for both programs	0.25	0.72	0.98	1.05	1.12	1.00
Ratio of contribution to the ability to pay for the medical care program	0.40	0.90	1.11	1.10	0.97	1.00

1 Contributions were estimated from income tax and premium information
and are based on family unit income and other characteristics from the
Survey of Consumer Finances. For a description of the estimation, see
the appendix.

2 Through premiums or the federal and provincial income taxes on indivi-
duals, depending on the province.

3 Through the federal and provincial income taxes on individuals.

Source: Based on data from Statistics Canada (1975 Survey of Consumer
Finances) and estimates by the authors.

Table 4-4 shows the per capita contributions to the
medical care and hospital insurance plans (in dollars) for the
five family unit quintiles displayed in Table 4-3. For both
programs taken together, the per capita contributions from the
highest quintile exceed those from the lowest quintile by a
factor of 18. The contributions of the less advantaged, because
of the existence of premiums in certain provinces, are relatively
greater for the medical care program than for the hospital in-
surance plan.

Table 4-4

DISTRIBUTION ON A PER CAPITA BASIS OF THE CONTRIBUTION TO THE MEDICAL CARE
AND HOSPITAL INSURANCE PROGRAMS ACROSS ECONOMIC FAMILIES ORDERED
BY TOTAL INCOME AND DIVIDED INTO QUINTILES
CANADA, 1974[1]

Per capita contribution to:	Family Unit Quintiles					
	First	Second	Third	Fourth	Fifth	Total
	(dollars)					
Medical care program[2]	8.28	33.88	54.07	63.11	86.24	56.73
Hospital insurance program[3]	1.13	13.12	28.24	40.37	85.60	41.41
Both programs	9.41	47.00	82.31	103.48	171.84	98.14

1 Contributions were estimated from income tax and premium information
  and are based on family unit income and other characteristics from the
  Survey of Consumer Finances. For a description of the estimation, see
  the appendix.

2 Through premiums or the federal and provincial income taxes on individ-
  uals, depending on the province.

3 Through the federal and provincial income taxes on individuals.

Source: Based on data from Statistics Canada (1975 Survey of Consumer
  Finances) and estimates by the authors.

The progressivity of the redistribution impact of the
medical care program could be further improved if we abolished
the premiums that help to finance medical insurance in four
Canadian provinces[29] and drew the equivalent amounts from gene-
ral revenues, or, even better, specifically from personal income
taxes. Table 4-3 reveals that the present methods of financing
medical care insurance result in the heaviest burden -- relative
to their ability to pay -- falling on those in the third and

29 Quebec, Ontario, Alberta and British Columbia, as noted earlier. In
   Ontario, premiums finance both medical and hospital insurance, while in
   the three other provinces, for the year studied, premiums financed only
   medical insurance. In order to simplify our analysis, we assumed
   Ontario's financing to be identical to that of the other provinces.
   This does not change the significance of the conclusions because any
   amount that cannot be covered by premiums must necessarily come from
   general funds.

fourth quintile, while those in the fifth quintile make a relative contribution that is less than their relative ability to pay (for the hospital insurance program, the heaviest part of the burden falls on the fifth quintile). Clearly the premiums for medical insurance are responsible in large part for this, particularly because of the income-related ceiling placed on contributions.

In Tables 4-5, 4-6 and 4-7, we have illustrated this phenomenon by analyzing the situation in three of the four provinces in which medical care insurance plans were financed in 1974 through premiums collected from employees and employers.[30] In these tables, we show, by income bracket, the contribution paid per family unit in 1974 to finance the medical care insurance plan. We have also given the amount that these same families would have paid if, rather than financing the provincial share of medical insurance expenditures through premiums, the provinces in question had obtained the sums required through the income tax system.[31] A few explanations of the tables are in order.[32]

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30 Only Quebec, Ontario and British Columbia were analyzed. Alberta could not be dealt with separately because of the sample size. It formed an integral and indivisible part of the Prairie region for the purposes of the survey. It should be noted that since the beginning of 1973, premiums have no longer been collected from employees in Quebec but only from employers.

31 It should be noted that in provinces where no premium financing exists, the provincial share of medical insurance expenditures is not totally covered by personal income tax but is also drawn from the province's general funds, part of which come from personal income tax. The same holds true of the federal government's financing. Consequently, these governments could also increase the progressive character of the medical and hospital insurance plans by resorting totally to personal income tax for financing.

32 All technical details relative to the calculation of premiums and income tax are presented in the appendix.

Table 4-5

AVERAGE CONTRIBUTIONS PER FAMILY UNIT TO MEDICAL INSURANCE PROGRAM
BY INCOME BRACKET, ON THE BASIS OF FINANCING
WITH AND FINANCING WITHOUT PREMIUMS,
QUEBEC, 1974

Income classes	Financing with premiums			Financing without premiums			Per family unit gains or losses
	Premiums paid by employees and employers	Part paid by the federal from general revenue-personal income tax	Total	Part that would be paid by the province from personal income tax	Part paid by the federal from general revenue-personal income tax	Total	
From 1,000	0.74	0.00	0.74	0.00	0.00	0.00	+0.74
1,000 - 2,999	5.33	0.06	5.39	0.63	0.06	0.69	+4.70
3,000 - 4,999	24.59	0.75	25.34	10.65	0.75	11.40	+13.94
5,000 - 6,999	55.69	4.18	59.87	29.41	4.18	33.59	+26.28
7,000 - 8,999	86.51	8.90	95.41	60.51	8.90	69.41	+26.00
9,000 - 10,999	118,77	15.47	134.24	93.91	15.47	109.38	+24.86
11,000 - 12,999	147.76	21.94	169.70	127.28	21.94	149.22	+20.48
13,000 - 14,999	177.23	27.66	204.89	158.34	27.66	186.00	+18.89
15,000 - 16,999	203.66	34.10	237.76	192.39	34.10	226.49	+11.27
17,000 - 18,999	231.89	39.88	271.77	221.68	39.88	261.56	+10.21
19,000 - 20,999	265.18	45.72	310.90	253.54	45.72	299.26	+11.64
21,000 - 24,999	281.59	57.82	339.41	317.53	57.82	375.35	-35.94
25,000 - 29,999	351.94	74.53	426.47	402.03	74.53	476.56	-50.09
30,000 - 39,999	373.09	99.19	472.28	536.39	99.19	635.58	-163.30
40,000 and over	442.34	235.49	677.83	1,200.27	235.49	1,435.76	-757.93

Table 4-6

AVERAGE CONTRIBUTIONS PER FAMILY UNIT TO MEDICAL INSURANCE PROGRAM
BY INCOME BRACKET, ON THE BASIS OF FINANCING
WITH AND FINANCING WITHOUT PREMIUMS,
ONTARIO, 1974

	Financing with premiums			Financing without premiums			
Income classes	Premiums paid by employees and employers	Part paid by the federal from general revenue-personal income tax	Total	Part that would be paid by the province from personal income tax	Part paid by the federal from general revenue-personal income tax	Total	Per family unit gains or losses
From 1,000	1.48	--	1.48	--	--	--	+1.48
1,000 - 2,999	6.22	--	6.22	0.44	--	0.44	+5.78
3,000 - 4,999	41.23	1.04	42.27	9.14	1.04	10.18	+32.09
5,000 - 6,999	89.96	6.59	96.55	36.99	6.59	43.49	+53.06
7,000 - 8,999	146.81	14.73	161.54	71.33	14.73	86.06	+75.48
9,000 - 10,999	194.95	23.54	218.49	106.61	23.54	130.15	+88.34
11,000 - 12,999	218.06	31.09	249.15	137.65	31.09	168.74	+80.41
13,000 - 14,999	233.24	39.79	273.03	172.88	39.79	212.67	+60.36
15,000 - 16,999	247.33	48.99	296.32	209.23	48.99	258.22	+38.10
17,000 - 18,999	263.57	57.09	320.66	242.39	57.09	299.48	+21.18
19,000 - 20,999	271.17	68.15	339.32	287.12	68.15	355.27	-15.95
21,000 - 24,999	283.42	79.60	363.02	335.19	79.60	414.79	-51.77
25,000 - 29,999	296.86	99.81	396.67	416.20	99.81	516.01	-119.34
30,000 - 39,999	318.23	131.45	449.68	543.64	131.45	675.09	-225.41
40,000 and over	267.84	467.19	735.03	1,850.89	467.19	2,318.08	-1,583.05

Table 4-7

AVERAGE CONTRIBUTIONS PER FAMILY UNIT TO MEDICAL INSURANCE PROGRAM
BY INCOME BRACKET, ON THE BASIS OF FINANCING
WITH AND FINANCING WITHOUT PREMIUMS,
BRITISH COLUMBIA, 1974

| Income classes | Financing with premiums | | | | Financing without premiums | | | | Per family unit gains or losses |
	Premiums paid by employees and employers	Provincial general revenue	Part paid by the federal from general revenue-personal income tax	Total	Part that would be paid by the province from personal income tax	Part paid by the federal from general revenue-personal income tax	Provincial general revenue (actual)	Total	
From 1,000	9.01	--	--	9.01	--	--	--	--	+9.01
1,000 - 2,999	9.11	0.03	0.03	9.17	0.64	0.03	0.03	0.70	+8.47
3,000 - 4,999	30.87	0.34	1.57	32.78	6.88	1.57	0.34	8.79	+23.99
5,000 - 6,999	59.31	0.90	5.99	66.20	18.36	5.99	0.90	25.25	+40.95
7,000 - 8,999	82.44	2.02	15.79	100.25	41.40	15.79	2.02	59.21	+41.04
9,000 - 10,999	98.95	3.06	25.28	127.29	62.67	25.28	3.06	91.01	+36.28
11,000 - 12,999	115.16	3.73	31.04	149.93	76.14	31.04	3.73	110.91	+39.02
13,000 - 14,999	131.52	4.59	38.86	174.97	93.91	38.86	4.59	137.36	+37.61
15,000 - 16,999	132.54	5.73	49.49	187.76	117.07	49.49	5.73	172.29	+15.47
17,000 - 18,999	128.36	7.33	64.31	200.00	149.91	64.31	7.33	221.55	-21.55
19,000 - 20,999	128.30	8.24	72.56	209.10	168.43	72.56	8.24	249.23	-40.13
21,000 - 24,999	147.15	9.15	80.01	236.31	187.06	80.01	9.15	276.22	-39.91
25,000 - 29,999	156.68	11.35	100.66	268.69	232.17	100.66	11.35	344.18	-75.49
30,000 - 39,000	154.57	15.63	139.65	309.85	319.57	139.65	15.63	474.85	-165.00
40,000 and over	151.63	42.02	388.42	582.07	858.48	388.42	42.02	1,288.92	-706.85

On the left hand side of these tables (financing with premiums), we first see the average value of premiums that each family pays to its provincial medical care insurance plan. The amount of the premium varies with the amount of income and includes both the share paid directly by the employee and the share paid by the employer.

We then find the share of personal income tax used to finance these plans. This share also varies in terms of the amount of taxable income and in terms of certain normal socio-economic characteristics used in calculating income tax. The rest of the financing is obtained from the other part of the general funds not obtained from personal income tax. This value is not shown in the table, since the information available is insufficient to calculate it by income bracket. For Quebec and Ontario, the share of financing obtained from other than premiums originates exclusively with the federal government. For British Columbia, since premiums do not cover all costs charged to the province for medical care insurance, the plan must obtain some of the money from the province's general funds, part of which are collected from personal income tax. It is these amounts, by family and income bracket, that are shown in the third column of Table 4-7.

On the right hand side of the tables (financing without premiums), we find in the first column the amounts that each family would have to pay on the basis of their income bracket, if their province, instead of acquiring the sums required to finance its share of the plan through premiums,

obtained financing through personal income tax.[33]

In the last column of each table, we find the gains or losses that each family would register under the new method of financing compared to the existing method.

It is quite clear from these three tables that the families at the bottom and middle of the income scale would benefit by financing the medical care insurance plan through personal income tax rather than through premiums. For Quebec, the gains reach a maximum of about $26 in the group with incomes below $21,000. The better-off would pay more, particularly the group earning $40,000 and over; this latter group would contribute an additional amount averaging about $758. In Ontario, the difference is even more remarkable, since the gains could run as high as $88 and the losses for families in the $40,000 and over bracket would be $1,583. In British Columbia, the maximum would be $41 and the maximum losses, again in the $40,000 and over bracket, $707 per family.

These figures clearly demonstrate that financing through premiums (with a ceiling) is less progressive than financing through personal income tax.

33　It should again be remembered that the provinces not collecting premiums do not totally finance their share through personal income tax, but also resort to their general funds. The federal government also uses the same procedure.

Chapter 5: Conclusions

Because of the volume of expenditures involved, the
health sector merits constant attention from governments and
the public. The health care delivery system in Canada is not
without its shortcomings, inefficiencies, and abuses. There
are, for example, certain problems of accessibility to medical
facilities and personnel, of health care facility administra-
tion, and of appropriate institutional design to meet particu-
lar kinds of health problems. But the system generally provides
reasonable quantities of health care to people of all ages and
levels of income, and does so without provoking costs that
increase at a faster rate than the growth of the economy. Fur-
ther, the medical care and hospital insurance programs -- from
the viewpoint of both the distribution of costs and the distri-
bution of benefits -- are found in this paper to be very pro-
gressively redistributive in relation to the distribution of
total income. As we show, they help pay, to a significant
extent, the costs of health care for those who most need this
care -- the poor and the aged.

In this paper, the hospital insurance program is shown
to be the more progressively redistributive of the two programs.
As we demonstrate, the medical care insurance program could be
made more progressively redistributive than at present if govern-
ments, rather than financing programs in part from premiums
collected from employees and employers, financed them totally
from personal income taxes whose redistributive impact is well-
known.

When considering the notable use made of these two programs, and of the health care delivery system in general by those aged 65 years or more, and when we remember that the proportion of these people in the population is expected to rise considerably over the coming years, it seems apparent that new, more effective and less expensive ways of dealing with the health problems of the aged should be designed and put into use.

However, one of the major problems of health care at present cannot really be gotten at through improvements in medical and hospital care. This problem is revealed by the material presented in this document on the patterns of consumption with respect to the medical care and hospital insurance programs, and is related to the above-average need the less advantaged have for health services -- as suggested by their larger per capita consumption for all age groups relative to the consumption of these same age groups in the population as a whole when the two programs are considered together. Their greater needs for health care may arise, in part, from the conditions in which they live, from poor nutrition, and from inadequate information on various health care problems and the steps that should be taken to combat or prevent them. There would seem to be a need for a careful investigation of these problems -- making use, for example, of the Canada Health Survey -- and for policies and programs to help deal specifically with them so as to reduce the need for medical and hospital care arising from them.

APPENDIX

Description of the Technique Used for the Calculation
of the Distribution of the Costs of the Medical
Care and Hospital Insurance Programs

The Funding of the Medical Care and Hospital Insurance Programs

1. The Medical Care Insurance Programs

   (A) Description of the funding for 1974

   The medical care insurance programs are a provincial responsibility. They are financed in part by the federal government and in part by the provinces. The federal government financing comes from general revenues. In 1974, the total amount passed by the federal government to the provinces for the medical care insurance programs was equal to 50 per cent of the costs, for all of Canada, of the services insured under these schemes. The amount sent to a particular province was equal to 50 per cent of the average per capita costs incurred across Canada under these programs multiplied by the number of insured individuals in this province.

   The remainder of the costs of the program in a particular province was financed out of provincial general revenues, premiums, or a combination of the two, depending on the province. For Saskatchewan, Manitoba, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland, the necessary funds were drawn from provincial general revenues. For Ontario and Quebec, the remaining costs were wholly defrayed by the premiums paid by employers, employees, the self-employed, and others. Finally, for Alberta and British Columbia, the remaining costs of the programs were financed partly out of provincial general revenues and partly by premiums.

(B)   Estimation of the contribution of family units to
         the funding of the medical care insurance programs

I - Through the federal government contribution

The contribution of individual family units to the
medical care insurance programs through federal funding is
calculated as follows. The proportion that the federal funding
of the medical care insurance programs represents relative to
federal general revenues is calculated for 1974. This propor-
tion can be applied to the federal income taxes paid by indivi-
duals in each family unit in order to obtain the contribution
of that family unit (see p. 80).

II - Through the provincial government contribution
        derived from provincial general revenues

For those provinces which in 1974 used funds from
their general revenues in order to fund their medical care
insurance programs, we calculated the contribution of indivi-
dual family units to this funding in the following way. In
each province, the proportion that the provincial government
funding represents relative to provincial government general
revenues is calculated for 1974. This proportion can be
applied to the provincial income taxes paid by individuals in
each family unit in the province in order to obtain the contri-
bution of that family unit (see p. 80).

III - Through premiums

Ontario, Quebec, Alberta, and British Columbia
assessed premiums in 1974 in order to fund wholly (Quebec and
Ontario),[1] or in part (Alberta and British Columbia) their

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1 See footnote 29 , page 51 in the main text.

contributions to meeting the costs of their medical care
insurance programs. The calculations of the premiums paid
by economic family units[1] are detailed for each province in
what follows. The procedure employed starts from the definition
of a census family. Apart from the head, the census family may
include (if they are living in the same dwelling) a wife (if
the head is male); sons and daughters (providing they are not
living with their spouses and/or their children, in which case
they form separate census families); grandchildren (unless
living with one or both parents, or with their spouses in
either case they would form separate census families); the
head's brother(s), sister(s), brother(s)-in-law, and sister(s)-
in-law (provided that they are not living with their spouses or
their children); and other relatives (e.g. nieces and nephews)
other than the parents, parents-in-law, son(s)-in-law, or
daughter(s)-in-law of the head (providing, again, these other
relatives are not living with their spouses or children). From
the census family, the population is then further divided into
"premium family units" according to the rules employed in the
particular province being considered. A premium family unit
may contain one or more persons, but only one member is assessed
a premium. For the purposes of this study, these premium family
units are then regrouped into the original economic family units
covered by the Survey. Thus the costs associated with the pre-
miums can be combined, for those economic family units which
paid premiums, with the costs of the medical care insurance
program being paid for through federal taxes, and, in the case
of British Columbia and Alberta, through provincial taxes.

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1 Almost an equivalent amount is paid by employers and is accounted for in
  our calculations, page 16.

(a)   British Columbia

The premiums in this province are assessed according to the schedule shown in Table A-1.

Table A-1

PREMIUM SCHEDULE FOR BRITISH COLUMBIA, 1974[1]

	Regular premium (dollars)	Premium if no taxable income (dollars)	Premium if taxable income between 0 and $1,000 (dollars)
Unattached persons	30	3	15
Married couples	60	6	30
Families of 3 or more	75	7.50	37.50

1   If the person or premium family receives social assistance, then the premium is waived.

If the census family unit being considered consists of an unattached person, we assess that person the appropriate premium according to the above table.

If the census family being considered consists of a married couple (or of a head and his or her son, daughter or grandchild), then we assess this "premium family" according to the rates noted for married couples in the above table.[1] The level of income is based upon the income of the person with the highest taxable income, and the premium is assigned to that person. The other person in this premium family is considered to pay no premium.

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1   Other two-person census families (e.g. a head plus an unmarried sister) are considered as two premium family units for the purposes of this analysis.

If the census family is made up of three or more persons, the premium family is defined to include, besides the head, the head's wife, the children, and any grandchildren living with the family, as appropriate. All other individuals in the census family are assessed a premium based upon the unattached persons category in Table A-1. The premium family is assessed on the basis of the person with the highest taxable income.

(b) Alberta and Ontario

The calculations of the premiums paid are essentially the same for Alberta and Ontario as they are for British Columbia, except that the "married couples" category is combined with the family category, and the taxable income levels for premium adjustments are different. In addition, there is an age qualification.

Once again, for both Alberta and Ontario, we start from the basis of the census family units in order to determine the premium family units.

For Alberta and Ontario, if the census family unit being considered is made up of an unattached person, then we assess that person the appropriate premium (which is based upon the person's level of taxable income) from Table A-2 or Table A-3. However, if the person is 65 years of age or older, the premium is waived.

Table A-2

ALBERTA PREMIUM SCHEDULE, 1974[1]

	Regular premium (dollars)	Premium if taxable income is zero (dollars)	Premium if taxable income is less than $500 (dollars)	Premium if taxable income is between $500 and $1,000 (dollars)
Unattached persons	34.50	12.00	18.00	34.50
Families of 2 or more	69.00	24.00	36.00	36.00

1 If a person or premium family receives social assistance or is 65 years of age or over, then the premium is waived.

Table A-3

ONTARIO PREMIUM SCHEDULE, 1974[1]

	Regular premium (dollars)	Premium if taxable income is zero (dollars)	Premium if taxable income is less than $1,000 (dollars)	Premium if taxable income is between $1,000 and $2,000 (dollars)
Unattached persons	66.00	0	33.00	66.00
Families of 2 or more	132.00	0	66.00	66.00

1 If a person or premium family receives social assistance or is 65 years of age or over, then the premium is waived.

For these two provinces, when the census family consists of other than an unattached person (i.e. of two or more people), the following approach is employed to determine the premiums to be paid. Those people in the census family other than the head, the head's wife, the head's children, and any grandchildren living with the family are treated as unattached persons and assessed the appropriate premium (based on level of taxable income and province; Table A-2 or Table A-3), unless they are over 65 years of age, or receive social assistance, in which case they are assessed no premium. The remainder of the census family, which will be referred to here as the "core census family", is treated as follows.

First, let us consider those core census families with no one 65 years of age or over. Premium family units are formed from these families by excluding those children and grandchildren 16 years of age or more, except those who are either continuing their formal education or are permanently unable to work. Those excluded are treated as unattached persons and assessed the appropriate premium, which depends on their level of income and province.[1] Those premium family units thus formed containing one person are treated as unattached persons and assessed the appropriate premiums. Those containing two or more persons are assessed the appropriate family rate (Tables A-2 and A-3), where this rate is tied to the taxable income of the spouse in the premium family with the highest level of taxable income.

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1 Those receiving social assistance are, of course, assessed no premium. This is true for premium family units of all types in the two provinces, and should be borne in mind in reading the rest of this section.

Next, let us consider those core census families with a head over 65 years of age, but no spouse. This person is assessed no premium, and the children or grandchildren are treated as unattached persons and are assessed the appropriate premium, unless they are 16 years of age or less, or are over 16 years of age and either continuing their formal education or permanently unable to work, in which case they are assessed no premium.

Thirdly, let us consider those core census families with a head and a spouse, only one of whom is over 65 years of age. The premium family units are formed by excluding the elderly spouse (who pays no premium) and the children and grand-children over 16 years of age, excepting those either continuing their formal education or permanently unable to work. Those excluded are treated as unattached persons and assessed the appropriate premium. Those premium family units thus formed containing one person are treated as unattached persons and the appropriate premium assessed on the basis of the income of this individual (even if it is lower than the income of the spouse over 65 years of age). Those premium families containing two or more persons are assessed the appropriate family rate (Tables A-2 and A-3), where the rate is tied to the taxable income of the spouse in the premium family whether or not this income is lower than that of the spouse over 65 years of age.

Finally, let us consider those core census families in which there is a head and a spouse, and both are 65 years of age or more. Neither of these persons is assessed a premium. Any

other members of the core census family are treated as unattached

persons and assessed the appropriate premium (based on their

taxable income level) unless they are 16 years of age or less,

or more than 16 years of age and either continuing their formal

education or permanently unable to work.

(c) Quebec

The calculation of the 1974 premiums for Quebec is

considerably more complicated than for the other three provinces

discussed in this Appendix. The magnitude of the Quebec Medical

Insurance Program (QHIP) premium paid by a premium family unit

is based on the number of dependents in this unit, and on its

income.

Once again we start from the basis of the census

family in order to determine the premium family units, and

assess them the appropriate premiums.

(i) Unattached persons

If the census family unit being considered is made

up of an unattached person, then the premium assessed is calcu-

lated in the following way:[1]

> -- The income subject to QHIP is determined.
>
> In this case, it is the individual's net
>
> income (QNR concept).

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[1] It should be noted that unattached persons that are "spun off" from census
families of two or more persons when premium family units are determined
are also assessed premiums in the way described here.

-- If the income subject to QHIP is $2,600 or less, no premium is assessed.

-- If the income subject to QHIP is over $2,600 but less than or equal to $2,642, then the premium assessed is the lesser of (a) 0.8 per cent of the income subject to QHIP or (b) $(\frac{\text{income subject to QHIP}-\$2,600}{2})$

-- If the income subject to QHIP is over $2,642, but less than or equal to $15,625, then the premium assessed is the lesser of (a) 0.8 per cent of the income subject to QHIP or (b) [0.75 x (income subject to QHIP)] - [(total wages and salaries) + $125], providing (b) is equal to or greater than zero.

-- If the income subject to QHIP is over $15,625, and if total wages and salaries for the unattached person are equal to or greater than three-quarters of the income subject to QHIP, then the premium assessed is $125.

-- If the income subject to QHIP is over $15,625, and if the unattached person's total wages and salaries are less than three-quarters of the income subject to QHIP, then the premium is the least of (a) $200, (b) 0.8 per cent of the income subject to QHIP, or (c) [0.75 x (income subject to QHIP)] - [(total wages and salaries) + $125], providing (c) is equal to or greater than zero.

(ii) Families with both head and spouse

If the census family unit being considered is made up of a family with both a head and a spouse, then the premium family must be determined and its premium calculated, and any remaining members of the census family treated as unattached persons.

Case 1: Head's net income greater than or equal to wife's

If the head's net income is greater than or equal to the wife's, then the premium family is made up of the head; his wife (unless her net income is greater than $1,850, in which case she is treated as an unattached person); children or grand-children less than 16 years old; children or grandchildren 16 to 20 years old but with net incomes of no more than $1,600; children and grandchildren 16 years of age or more who are either continuing their formal education or are permanently unable to work; brother(s), sister(s), brother(s)-in-law, sister(s)-in-law of the head who are living with the family and who are permanently unable to work; and those who are in the census category "other relatives" (e.g. nieces or nephews of the head and his wife) who are living with the family and are permanently unable to work. All other individuals in census families with both a head and spouse, where the head's income is greater than or equal to his wife's, are treated as unat-tached persons.

If the premium family unit consists of the head only, he is treated as an unattached individual. If the premium family is made up of two or more individuals, the income subject to QHIP is calculated in the following way:

-- If the wife's income is $1,850 or less,
the income subject to QHIP is the head's
net income, plus his wife's net income
less $500 (provided the wife's net income
is $500 or more).

-- If the wife's income is greater than $1,850
(the wife then is not a member of the pre-
mium family), the income subject to QHIP is
the head's net income, plus the net income
of the premium family member, other than
the head, with the highest net income less
$500 (provided this latter income is $500
or more).

The premium for these premium families is then calcu-
lated as follows:

-- If the income subject to QHIP is $5,200 or
less, no premium is assessed.

-- If the income subject to QHIP is over $5,200
but equal to or less than $5,285, then the
premium assessed is the lesser of (a) 0.8
per cent of income subject to QHIP, or (b)

$$[\frac{\text{income subject to QHIP} - \$5,200}{2}]$$

-- If the income subject to QHIP is over $5,285,
but less than or equal to $15,625, then the
premium assessed is the lesser of (a) 0.8
per cent of the income subject to QHIP, or

(b) [(0.75 x income subject to QHIP) -
(total wages and salaries of head plus $125)],
providing (b) is equal to or greater than
zero.

-- If the income subject to QHIP is over $15,625,
and if the total wages and salaries of the
head are equal to or greater than three-
quarters of the income subject to QHIP, then
the premium assessed is $125.

-- If the income subject to QHIP is over $15,625,
and if the head's total wages and salaries are
less than three-quarters of the income subject
to QHIP, then the premium is the least of (a)
$200, (b) 0.8 per cent of the income subject
to QHIP, or (c) [0.75 x (income subject to
QHIP)] - [(total wages and salaries of head)
+ $125], providing (c) is equal to or greater
than zero.

Case 2: Wife's net income greater than head's

If the wife's net income is greater than the head's,
then the premium family is made up of the head (unless his
income is greater than $1,850, in which case he is treated as
an unattached person); the wife; and all the other possible
members noted in Case 1. All other individuals in census fami-
lies with both a head and spouse, where the head's income is
greater than or equal to his wife's, are treated as unattached
persons.

If the premium family unit consists of the wife only, she is treated as an unattached person. If the premium family is made up of two or more individuals, the income subject to QHIP is calculated in the following way:

    -- If the head's income is $1,850 or less, the income subject to QHIP is the wife's net income, plus the head's net income less $500 (providing the head's net income is $500 or more).

    -- If the head's income is greater than $1,850 (the head then is not a member of the premium family), the income subject to QHIP is the wife's net income, plus the net income of the premium family member, other than the wife, with the highest net income, less $500 (provided this latter income is $500 or more).

The premium for these premium families is calculated as in Case 1 if the income subject to QHIP is $5,285 or less. Otherwise it is calculated as follows:

    -- If the income subject to QHIP is over $5,285, but less than or equal to $15,625, then the premium assessed is the lesser of (a) 0.8 per cent of the income subject to QHIP, or (b) [(0.75 x income subject to QHIP) - (total wages and salaries of wife plus $125)], providing (b) is equal to or greater than zero.

-- If the income subject to QHIP is over $15,625,
and if the total wages and salaries of the
wife are equal to or greater than three-
quarters of the income subject to QHIP, then
the premium assessed is $125.

-- If the income subject to QHIP is over $15,625,
and if the wife's total wages and salaries
are less than three-quarters of the income
subject to QHIP, then the premium is the
least of (a) $200, (b) 0.8 per cent of the
income subject to QHIP, or (c) [0.75 x (income
subject to QHIP)] - [(total wages and salaries
of wife) + $125], providing (c) is equal to
or greater than zero.

(iii) Families with head, but no spouse

If the census family unit being considered is made up
of a family with a head but no spouse, then the premium family
must be determined and its premium calculated, and any remaining
members of the census family treated as unattached persons.

The premium family is made up of the head and all the
other categories noted for Case 1 for families with a head and
spouse, except that there is no category for wives. If the pre-
mium family unit determined consists of the head only, he or she
is treated as an unattached person. If the premium family is
made up of two or more individuals, the income subject to QHIP
is calculated in the following way:

-- The income subject to QHIP is the head's

net income, plus the net income of the

premium family member, among the members

other than the head, with the highest net

income, less $500 (provided this latter

income is $500 or more).

The premium for these family units is then calculated
as for Case 1 for families with both a head and spouse.[1]

(C) Calculation of the employer contribution to medical insurance on behalf of individuals, and calculations for non-employees of additional premiums (in lieu of an employer contribution)

I - British Columbia, Alberta, and Ontario

In the case of British Columbia, Alberta, and Ontario,
the calculations are relatively simple for 1974. For those
individuals who pay premiums (on their own behalf, or on behalf
of their premium family) and who are employees, the employer
pays a premium on their behalf equal to the one they pay. The
premium paid by the employer is considered a taxable benefit to
the employee for income tax purposes (that is, the employee pays
income tax at his or her marginal rate on the amount paid to the
government as premium by the employer). The employer premium is
thus already on an after-tax basis, and is added to the one paid
directly by the employee for the purposes of this study (that is,
the cost borne by the employer is considered to have been shifted
from what the employee would otherwise have been earning).

1 It should be noted that all premiums calculated up to this point are on an after-tax basis, that is, they are considered to be drawn from after-tax income because premiums are not deductible for tax purposes.

For those individuals who pay premiums (on their own behalf, or on behalf of their premium families) and who are not employees, an equivalent additional contribution is paid by them. These contributions are considered as being paid from after-tax income (that is, on an after-tax basis as is the case for the employer contributions), since medical premiums are not tax deductible.

When there are two or more earners in the premium family, the premium is assessed to the individual with the highest income; if he is an employee, the employer contribution is shifted to him, and if he is self-employed, his initially-assigned premium is doubled (it should be noted, however, that the results are effectively the same for the purposes of this exercise).

The rules used, in more precise form, in order to calculate the additional premium for each premium family unit, are as follows:

-- The person with the highest income in the premium family unit is identified.

-- If the unattached person or the person in the premium family assessed the initial premium earns $1,000 or less as an employee (his or her income could be derived, for example, from self-employment, or from investments), the employer-paid premium is set equal to zero, and the initial medical insurance premium paid by the person is

multiplied by 2 and the resulting amount assessed the premium family unit through this person.

-- If the unattached person or the person in the premium family assessed the initial premium earns more than $1,000 as an employee, the employer paid premium is set equal to the premium paid by this person, and, for the purposes of this exercise, is shifted as a cost to the person under consideration.

II - Quebec

In the case of Quebec in 1974, we require different rules. In that year, employers in Quebec were required to contribute 0.8 per cent of the wages and salaries of employees whose wages and salaries exceeded $700 in that year. The contributions paid by employers are not counted as taxable benefits accruing to the employees, and thus to estimate employee costs we must calculate the tax-back on these benefits (i.e. the taxes that would have been paid by the employee if he or she had received the employer contribution as income). Those individuals who are not employed and those premium families with no earners have no additional premium to pay (unlike the other premium provinces).

Thus for unattached persons (from a premium family viewpoint) the following calculations are made:

-- If the unattached person earns less than $700, the employer contribution is zero.

-- If the total wages and salaries of the unattached person are $700 or more, then the employer contribution is 0.8 per cent of total wages and salaries. The employee cost of the employer contribution is the employer contribution minus the incremental increase in the federal and provincial tax payable by the person (this incremental increase is calculated by increasing the taxable income of the individual by the amount of the employer contribution -- both federal and Quebec --, by recalculating the federal tax payable and the Quebec tax payable, and then by calculating from this the incremental increase in federal and provincial tax payable).

The employee cost of the employer contribution is, of course, then added to his or her own cost.

For premium families, one person in each family is assessed the basic premium, but all people earning $700 or more have an employer contribution. In those cases where an individual does not pay a premium, but his or her employer makes a contribution on the taxes of the individual who did pay the premium. The following calculations are made:

-- For each individual in the premium family
with earnings, the employer contribution
is calculated using the rules for unattached
persons described above.

-- The employer contributions for all members
of the premium family are summed and assigned
to the individual assessed the basic premium.

-- The employee cost of the employer contribu-
tion is the sum of the employer contributions
for the premium family, minus the incremental
increase in the federal and provincial tax
payable by the individual assessed the basic
premium (this incremental increase is calcu-
lated by increasing the taxable income of
the employer contributions for all relevant
members of the premium family, by recalculating
the federal tax payable and the provincial
tax payable for this individual, and then by
calculating from this incremental increase
in federal and provincial tax payable for this
individual).

The employee cost to the individual paying the basic premium of
the employer contributions of all premium family members earning
$700 or more in wages and salaries is, of course, then added to
the cost of the basic premium.

(D) Allocation of income tax for the medical care insurance programs

I - Federal allocation

For each individual who pays federal income tax, the federal allocation for the medical care insurance program in 1974 is given by 0.02532 x (federal tax payable). As will be noted in the following section, this allocation and other allocations should then be grouped by economic family unit.

II - Provincial allocation

For each individual who pays provincial income tax, the provincial allocation for the medical care insurance program in 1974 is given by β x (provincial tax payable) where β has the following values:

Province	β [1]
Newfoundland	0.00745
Prince Edward Island	0.01307
Nova Scotia	0.02391
New Brunswick	0.00732
Quebec	0
Ontario	0
Manitoba	0.02377
Saskatchewan	0.01534
Alberta	0.00459
British Columbia	0.00867

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1 These figures were estimated from the following sources: Alberta Health Care Insurance Commission, *Annual Report* (for the years ending June 30, 1973, and June 30, 1975); provincial public accounts (e.g. Province of British Columbia, *Public Accounts of British Columbia* (for the years ending March 31, 1974, and March 31, 1975)); Statistics Canada, *Federal Government Finance*, Cat. No. 68-211 (for the fiscal years ending March 31, 1974, and March 31, 1975); and Statistics Canada, *Provincial Government Finance*, Cat. No. 68-207 (for the fiscal years ending March 31, 1974, and March 31, 1975).

As will be noted in the following section, this allocation and other allocations should then be grouped by economic family unit.

(E) Summary for medical care insurance programs

For each individual, the following items are summed: direct premiums paid by him or her on his own or her own behalf, or on behalf of a premium family; the cost to an employee of employer contributions; the federal tax allocation; and the provincial tax allocation. These individuals and their contributions to the medical care insurance programs are then grouped by economic family unit.

2. The Hospital Insurance Programs

(A) Description of the funding for 1974

The hospital insurance programs are also a provincial responsibility. As is the case for the medical care insurance programs, the hospital insurance programs are financed in part by the federal government (from general revenues) and in part by the provinces. In 1974, the total amount passed by the federal government to the provinces for these programs was equal to 50 per cent of the costs, for all of Canada, of the services insured under these schemes. The amount sent to a particular province was equal to 50 per cent of the average per capita costs incurred across Canada under these programs multiplied by the number of insured individuals in this province. The remainder of the program in each province is financed from provincial government general revenues.

(B) Allocation of income tax for the hospital
     insurance programs

I - Federal allocation

For each individual who pays federal income tax, the federal allocation for the hospital insurance program in 1974 is given by 0.05840 x (federal tax payable). As will be noted in the following section, this allocation and the provincial government allocation should then be grouped by economic family unit.

II - Provincial allocation

For each individual who pays provincial income tax, the provincial allocation for the hospital insurance program in 1974 is given by γ x (provincial tax payable) where γ has the following values:

Province	γ[1]
Newfoundland	0.05058
Prince Edward Island	0.03712
Nova Scotia	0.06042
New Brunswick	0.05643
Quebec	0.04664
Ontario	0.08556
Manitoba	0.07568
Saskatchewan	0.06285
Alberta	0.04159
British Columbia	0.05588

[1] These figures are obtained from the same sources as the β coefficients noted for the provinces (with reference to the medical care insurance programs).

As will be noted in the following section, this allocation, along with the federal government allocation, should then be grouped by economic family unit.

(C) Summary for hospital insurance programs

For each individual, the federal and provincial allocations are summed. These individuals and their contributions to the hospital insurance programs are grouped by economic family unit.

3. Adjustments to Reported Benefits from Physician and Hospital Services to Render Them Comparable with the Derived Costs of the Medical Care and Hospital Insurance Programs

Over the period between April 1, 1973 and March 31, 1975, the federal and provincial governments together spent, on a per annum basis, $1,580,689,591 for the medical care insurance programs, and $3,247,384,915 for the hospital insurance programs.[1]

For the year studied, the hospital insurance program thus registered expenditures approximately 2.054 times higher than those for the medical insurance program. In the course of the analysis presented in this study, we ensured that this proportion was respected. Consequently, we adjusted the data from the survey in the following manner.[2]

For services provided in hospital, the total estimated cost for 1974 aimed at by the survey was $4,305. These costs represented the operating expenditures of hospitals and *payments of fees-for-services to doctors providing medical services to hospitalized patients.*

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1 These figures were taken from the published public accounts of the provinces.

2 This adjustment was made on the grouped data. A detailed micro adjustment, which would have been the preferred approach, was not attempted because of the expense that such an adjustment would have implied.

In the case of out-of-hospital medical services, the total estimated cost was $907 million. As a result of the preceding paragraph, this excluded payments for medical consultations for hospitalized patients.

These estimated costs aimed at by the survey raise two problems:

a) their sum ($5,212 million) is higher than that observed on an annual basis from April 1, 1973 to March 31, 1975 ($4,828 million);

b) a part of the total estimated cost of in-hospital services aimed at by the survey falls under medical insurance. Consequently, if we wish to subdivide health expenditures into those covered by medical insurance and those covered by hospital insurance, we must transfer part of the $4,305 included under hospitals to medical services covered by medical insurance.

The solution to the first is quite simple. To arrive at the value of $4,828 million, we used the respective public accounts of each province. These accounts reflect the fiscal year rather than the calendar year used in the survey. Consequently, we computed an annual average over two fiscal years. The difference was small (8 per cent) and thus will not change the bearing of the conclusions.

The solution to the second problem is more complex. If the survey had been able to include in the "hospital" item only those expenditures covered by hospital insurance, it should

have arrived at a total estimated cost of $3,505 million rather
than $4,305. In this way, it would have respected the propor-
tion observed between April 1, 1973 and March 31, 1975 for
hospital insurance in relation to all expenditures covered by
the two plans. This proportion was 67 per cent.

This means that the payments of fees-for-services to
doctors who provided medical services to hospitalized patients
amounted to about $800 million (i.e. $4,305 - $3,505). This
sum, when added to that for out-of-hospital medical expenditures,
would accurately reflect the payments made under medical insur-
ance, $1,707 million.

It must also be noted that $648 million, or 71.4 per
cent of $907 million, was covered by the survey, while $3,254
million, or 75.6 per cent of the $4,305 million, was covered.
Therefore, we must again adjust the figures accordingly to
accurately reflect the distribution of spending between items
covered by hospital insurance and those covered by medical insur-
ance. Specifically, the expenditures listed under the out-of-
hospital item must be multiplied by a coefficient of 1.0588.

Let's review this now.

To identify the expenditures falling exclusively under
hospital insurance, we must subtract $800 million from the total
estimated cost of $4,305 million. This means that we have spe-
cifically transferred 18.58 per cent of the hospital costs over
to medical services.

To identify expenditures covered exclusively by medical insurance, we adjusted by a coefficient of 1.0588 the degree of coverage of expenditures on out-of-hospital medical services. These expenditures have thus risen from $648 million to $686 million. To this last value we add the $605 million (i.e. $3,254 x .1858) we split off for medical services provided in hospital.

Using this procedure, the expenditures covered by the survey and included under medical insurance would be about $1,291 million, while those included under the hospital insurance plan and covered by the survey would be about $2,649 million, giving an adjusted total of $3,940.

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