PLANNING A PHARMACARE PROGRAM
FOR
THE NORTHWEST TERRITORIES
by
MICHAEL STEPHEN PONTUS
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B.Sc., The University of British Columbia, 1976
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c Michael Stephen Pontus, 1980
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Department of HEALTH CARE AND EPIDEMIOLOGY

The University of British Columbia
2075 Wesbrook Place
Vancouver, Canada
V6T 1W5

Date SEPTEMBER 12, 1980.
DEDICATION

To Peggy and Jenny whose love
and sacrifices have made this possible.
ABSTRACT

The Northwest Territories Legislative Assembly in March of 1979, recommended that the Government of the Northwest Territories introduce a Pharmacare program for Senior Citizens on July 1, 1979.

The Northwest Territories has a population of 46,400 people, spread through 59 settlements and over 3,379,500 square kilometers. Senior Citizens account for 2.8% of the population.

The problem faced in the introduction of the program was that it also required consolidation of three existing programs. Rather than offer a universal program, the Territorial Government chose a program for those residents age 65 and over to complement the existing programs, specifically the one in the Department of Health which covers prescription drugs for twelve defined illnesses. The Government did so without introducing Pharmacare legislation but rather through a financial appropriation of the Finance Legislation. This left the final definition of policy planning and program introduction in the hands of bureaucrats.

The planning of the program took place in a bureaucratic setting. The approach used was an incremental approach based on a comparison of the major features of the existing plans of British
Columbia, Saskatchewan, Manitoba and Ontario.

The detailed design involved the construction of a formulary, the quantification and numerical identification of all information in order that it could be placed in an electronic data processing format to be operated on a data base inter-active system of a Hewlett-Packard 3000 computer. The consolidated program was successfully implemented on July 1, 1979 and has worked successfully from that point.

The report concludes with an evaluation of the system and how introduction of this program may be of use in the design of Pharmacare programs or other programs in other similar jurisdictions.
The finalization of this thesis is the result of efforts by many people. First, my sincere gratitude to Dr. Anne Chrichton who has guided me through the program and this thesis. She has always eagerly shared her wisdom and knowledge and been a strong supporter.

My thanks to Drs. C.J. MacKenzie and F.A. Morrison for their skilful and dedicated assistance in reading my paper.

Thanks is extended as well to the staff of the Department of Health and System West Consultants whose knowledge and efforts made possible the realization of the program in such a short time.

To Lis Henry who typed the final document goes my thanks for her patience and diligence.

Last but not least I wish to thank my parents and Mary Ann, Larry and Kathy for their ever strong support.
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**Figure**

1. System Concept Diagram
CHAPTER 1

INTRODUCTION

This thesis is an account of the development of the Pharmacare program for residents of the Northwest Territories. The author in his position as Chief, Health Insurance Programs, developed and implemented the program described and evaluated below.

The Northwest Territories has followed the rest of Canada in developing programs (Public Health, Mental Health, Hospital Insurance, Medical Care) to meet the needs of the Territories.

Pharmacare is defined as public sector involvement in the financing of prescription drugs. It is one of the subsidiary programs brought in to support the major initiatives introduced as a result of the Heagarty Committee's proposals in 1943. The Committee had become interested in the issue because drugs had become the principal form of therapy to those having medical treatment in Canada. It was first proposed as an addition to these primary programs by the Hall Commission in 1964.

Pharmacare was introduced in the Northwest Territories as a consolidated program in July of 1979. Three separate public sector programs had existed prior to that date.
There will follow a description of the planning and the evaluation of the program.

Synopsis - Historical Development

Public intervention in the field of prescription drugs originated outside Canada. Abel-Smith, when reviewing the comparative development of the history of insurance programs, notes that:

Pharmaceutical benefits are normally included in compulsory insurance and public service health schemes. The usual system is for them to be purchased through a local pharmacist and either the pharmacist or the patient claims reimbursement from the sick fund or government. In the main sick fund of Israel the drugs are issued through the sick fund. In the U.S.S.R., patients have to purchase their own drugs for use at home. In Britain, any drug may be prescribed for patients, through individual doctors though individual doctors may be required to account for their actions to their colleagues in the area, if their prescribing appears to be "excessive". The patient pays the standard charge of 20p for each preparation. In Australia defined "lifesaving drugs" are available free to the bulk of the population with a more extensive list for pensioners. There is a similar limitation to "essential drugs" in Sweden. In the Netherlands doctors may not prescribe medicines which are in the experimental stage or for which there is a less costly substitute of equal therapeutic value.²

Canada can trace one of its early instances of third party involvement in pharmaceutical benefits to British Columbia where, in 1933, the government implemented support programs for the
provision of necessary prescription drugs to social assistance cases.

It was the Heagarty Committee of 1943 that first advocated prescription drugs as part of an over-all proposal of health benefits. Ruderman speculates that this is due to the fact that members of the Canadian Armed Forces received drugs and came in contact with various types of health insurance programs in Southern European countries, where it was already a fact of life. Heagarty's proposals were a little in advance of Canadian public conscience, more over-shadowed with Canadian concerns of World War II.

The issue did not arise again until the 1950's when complaints of high drug prices goaded the Canadian politicians into action. Canada responded with the free enterprise philosophy that foresaw as little government intervention as possible.

Canada saw the rejection by the doctors of the proposed scheme in Australia in 1949. This may have influenced the federal government in its decision not to introduce a program.

The late 50's (1958) saw the introduction of the Hospital Insurance and Diagnostic Services Program within which pharmaceutical costs in a hospital were considered a benefit. Bulk
purchasing and the introduction of formularies were concepts that came to the forefront in hospital pharmacies.

The American Senate Sub-Committee on Anti-Trust Monopoly (1957 - 1967) chaired by Senator Estes Kefauver drew attention to the monopoly powers at play in the drug industry. It pointed out that these were extremely large companies and that they were monopolistic not only within North America but globally. Kefauver, upon discovering the monopoly situation, led the Sub-Committee to reach a decision that "it must destroy the monopoly by injecting into the drug manufacturing industry, a greater degree of price competition".  

The first enquiry into the cost of drugs in Canada was begun in 1958. This enquiry was spurred on, no doubt, by the Kefauver investigations and the dramatic unfolding that they undertook in their years. The Canadian enquiry resulted in the findings of a Green Book put forward in 1961 to the Restrictive Trade Practices Commission. The House of Commons then in 1962 established a special committee on drug costs and prices commonly known as the Harley Committee which ran through to its completed document in 1967. This committee in its review of drug costs and prices, concluded that not only did a monopoly situation exist in Canada but that it was foreign owned. It identified that the largest percentage of drugs were manufactured
outside of Canada. It advocated public sector intervention in the form of tariffs and incentives to the Canadian industry to help develop a Canadian base. More importantly, it called for strengthening of the Food and Drug Act to protect consumers. This important linkage between consumer protection, cost and drug quality offered the perfect rationale for greater public sector involvement.

The Canadian approach of minimal intervention led to government involvement in quality. The tariffs and incentives suggested did not affect the manufacturers approach. Ruderman speculates that this is a result of economies of scale that permit U.S. firms to undersell Canadian made products even with the tariff. What occurs in this instance is that U.S. firms can run off additional quantities at minimal cost once they have met the quantities that they are able to dispose of in the United States. At this time, there also appeared a great search for the Canadian identity and Canadian independence and it spurred on the ideas of fostering Canadian and home grown industry.

A patent system designed to encourage new industry and controlled products was ineffective, since only 5% of all Canadian patents are held by Canadian firms or individuals and 85% of
Canadian drug manufacturing is in manufacturing tablets from imported barrels of drugs.¹¹

The Hall Committee of 1964 which came into being during the existence of the Harley Committee had become interested in the issue of prescription drugs as an insured service because of the enormous use of drugs in treatment methods. Studies have shown that in Canada prescription drugs dispensed per capita doubled between 1960 and 1971.¹² As well, 70% of the drugs currently being prescribed were unknown or unavailable fifteen years ago.¹³ The Hall Committee foresaw the increase in drug usage and cost that has come about.¹⁴

Cost sharing arrangements existing at that time, appear to have conspired to remove it from the conditions agreed to in the Medicare Act of 1967. The introduction in 1958 of the Hospital Insurance and Diagnostic Services Act which had marked public sector involvement in the cost of prescription drugs for inpatients of acute hospitals and the Canada Assistance Plan of 1966 which permitted the sharing of the cost of prescription drugs to indigents, met the largest of drug costs.¹⁴ The Medicare Act of 1967 did not contain cost sharing for Pharmacare.

Since the basic federal political philosophy has been minimal intervention, government action to attempt to reduce the costs of drugs did not focus on the manufacturing of drugs but rather their distribution. Provinces (B.C., Alberta, Saskatchewan, Manitoba
and Quebec) have passed legislation enabling pharmacists to choose the lowest priced drug from among equivalent products when filling a prescription. The involvement of the public sector in the universal coverage was revived by the Ontario government's introduction in 1970 of PARCOST (Prescriptions At Reasonable Cost). It perhaps can be viewed as a significant turning point in the public sector involvement and the first public sector intervention in the cost factor since it indirectly affected costs of prescription drugs.\(^{16}\)

In addition, the federal government has had investigations such as the task force on the non-medical use of drugs (the LeDain Commission of 1969). In all a great deal of concern about the cost, quality and utilization of drugs has involved the public sector to an ever increasing degree. The spiralling costs of drugs and the proliferation of drugs has meant that subsequently, provinces have had to re-examine their positions.

In a short span of time, several provinces introduced programs for the aged. (See Table 1)

Subsequently, British Columbia, Saskatchewan and Manitoba opted for universal programs. (See Table 2) The rapid succession of the introduction of these programs reflects the high level of public importance attached to the program and the snowball effect attached to insured health services. All the programs have their
own peculiarities reflecting the conditions under which they were planned and operate. There is, however, little documentation on how the programs were planned.
TABLE 1
"Public Pharmaceutical Programs for the Aged"

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<thead>
<tr>
<th>PROVINCE</th>
<th>DATE OF IMPLEMENTATION</th>
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<td>July 1, 1973</td>
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<tr>
<td>British Columbia</td>
<td>January 1, 1974</td>
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<tr>
<td>Alberta</td>
<td>July 1, 1974</td>
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<td>Nova Scotia</td>
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<td>Saskatchewan</td>
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<td>January 1, 1977</td>
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<td>July 1, 1979</td>
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FOOTNOTES:
1. "Manitoba Government to Pay 80% of Senior Citizens Drug Costs"
2. "British Columbia Introduces Prescription Program"
3. Alberta, Alberta Health Care Insurance Commission,
   Annual Report 1974-75, p.13
5. "Prescription Drug Bill Near Third Reading Stage"
   Canadian Pharmaceutical Journal 107 (August 1974): 34
7. "Quebec Extends Drug Plan to All Senior Citizens"

**TABLE 2**

**UNIVERSAL DRUG PROGRAMS**

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**FOOTNOTES:**

1. "Manitoba Pharmacare Program Now in Effect in Province"


3. "B.C. Extends Pharmacare Program to All Residents"
LITERATURE REVIEW
Planning and Planning Theory

Gilbert and Specht have identified three types of planning; rational, bureaucratic and advocacy. This examination is only concerned with bureaucratic planning. Bureaucratic planning can be viewed as the middle line between rational planning into which ideas and concepts and decisions are formulated on a rational basis and advocacy planning where the emphasis lies in planning for particular groups within society with as many spinoffs as possible to peripherally include others.

Bureaucratic planning is often referred to as "mixed scanning" by Etzioni. It combines the broad brush view of planning on an incremental basis with the microscopic tendencies of rational planning from first principles.

Eckstein reviews the bureaucratic process in Britain and finds that what appears as little planning from the outside is indeed methodical bureaucratic planning. It collects data and modifies solutions to meet political ends. Hall notes that there is no effective way of isolating planning from the political process and states that good planning is inevitably controversial by introducing technical analysis and an explicit value system where personal judgments had previously existed.

Marmor says that planning has three stages, 1. data collection,
2. identification of existing structures - bureaucratic,
3. negotiating with the deliverers. This type of analysis of status enables planners to segment the process thereby being able to identify issues within each segment more clearly.

Lindblom recognizes that most planning in a bureaucratic setting is incremental in nature, while Taylor identifies thirteen systematic stages in health planning, only one of which identifies the area of incrementalism. Reinke identifies the application of the planning process into four components, 1. the nature of the problem, 2. factors related to causes, 3. plans of action and 4. objectives and targets.

An important planning reader by Faludi supports Etzioni's view of the bureaucratic methodology used and agrees that it is best typified by the "mixed scanning" of Etzioni. It incorporates the data identification as well as the incrementalism or the relatedness of existing structures and the modification required out of a political process. The planner recognized the incremental situation necessary in bureaucratic planning. Blum emphasizes that planning must be seen to be an instrument of social change and therefore integral to all bureaucratic planning must be objectives and targets that reflect the unique values of the Society. These are translated, through the methods used to obtain these objectives and goals, into socially acceptable methods.
Within the pure planning literature the area of bureaucratic planning can be seen to have the following important features:

- emphasis on a review of existing structures
- a broad brush approach to the field resulting in the selection of major area for concentration
- a review of the major areas in detail
- the meshing of rational solutions with political requirements to develop a politically acceptable approach to the objective sought.

This type of approach seldom authors totally new ideas but rather rewrites existing ideas into a new approach which may add incrementally to the base of proven knowledge available.

**Pharmacare Planning Literature**

Planning documentation in the area of Canadian Pharmacare insurance is scarce. A relevant article in the area of insured Pharmacare benefits is by Lang, who documents the economic and political climate that drew attention to the pharmaceutical industry and the bureaucratic concern. He points out the origins of the involvement in third party billings as stemming from cost and price concerns. Out of bureaucratic tenacity came the formation of a federal committee known as the Harley Committee. Its recognition of manipulative or monopolistic situations and recommendations on incentives for Canadian industry and strengthening the Food and Drug Act, provided the stimulus to the Canadian involvement
in the prescription drug field. More recently, Evans and Williamson have elucidated the economic aspect of Pharmacare programs and various implementation methods that would either change the method of Pharmacare delivery or change the prescribing and utilization habits.28

The 1968 Task Force on Prescription Drugs in the United States and a similar study by Muller disclosed a wide variety of systems available when constructing a plan. Their reviews were centered around the use of a formulary, reimbursements to patients, co-payments and peer reviews.

More relevant, however, is the documentation of the provincial plans in existence. Information concerning the provincial plans in existence across the country form the basis of a comparative approach used to generate the major features of the Pharmacare program of the Northwest Territories. Manore and McIver have attempted to catalogue third party programs across the country.31, 32 A comparison of four major plans will be discussed in Chapter 2.
Demography

The Northwest Territories covers 3,379,500 square kilometers or the equivalent of one-third of Canada's land surface. It comprises all that part of Canada North of the 60th parallel of North latitude, except the portions thereof that are within the Yukon Territory, the Province of Quebec or the Province of Newfoundland and the Islands in Hudson's Bay, James Bay and Ungava Bay, except those islands that are within the Province of Manitoba and the Province of Ontario or the Province of Quebec.

It stretches from the Yukon River to the Atlantic Ocean and from the 60th parallel latitude to the Northern edge of the Continental Shelf.

There are 46,400 inhabitants scattered through 59 settlements. Of these, eight settlements, have only 50 residents or less and are not given formal recognition. Of the 51 remaining, only one is of city status (Yellowknife), the rest are below 5,000 in population. Distances are great. From the capital in Yellowknife to the Eastern Regional Office in Frobisher Bay is approximately 1405 air miles. Air travel is the primary means of transportation between communities. Larger settlements have large modern commercial airline service. Smaller settlements have small charter planes.
that operate on an infrequently scheduled basis. The travel is more North-South than East-West. There are three major distribution points, Montreal for the Eastern Arctic called Baffin Region; Winnipeg for the Central Arctic called Keewatin Region; and Edmonton for the Western Arctic, Inuvik and Fort Smith Regions. There are highways linking the major and Western Arctic settlements to southern points but no highways in the Central or Eastern Arctic.

Weather is an important factor in distribution of perishable goods. Temperatures in the areas may range from mean daily average of \(-35^\circ C\) in the winter in the northern parts to a high mean daily average of about \(17^\circ C\) in the summer. \(^{38}\)

The population is approximately 51% Indian and Inuit and 49% other status. \(^{39}\) The Indian population, numbering 7,500, inhabits that part of the Western Arctic below or up to the tree line. \(^{40}\) There are many dialects spoken but few, if any, written. The end result is the elders of the Indian population cannot read or write other than the little English they have learned through purchasing commercial goods.

The Inuit population, numbering 15,000, live predominantly above the tree line in the Central and Eastern Arctic. \(^{41}\) They outnumber the status Indian population of the northwest Territories by approximately two to one. In the Inuit population there is one language (Innuktitut) but two forms of writing (Western and Syllabics). English has become the second language for many although the elderly population is
often only familiar with Innuktitut.

Both cultures prefer to live in small settlements from which they maintain a high percentage of their livelihood through hunting, trapping, and fishing.

The "other" status residents, numbering 23,900 are primarily white, speaking English and having a higher over-all degree of literacy. They prefer to live in the larger settlements and most often work for the government, educational boards, health facilities, transportation industry or private mining and exploration companies.

The population is very young, 40% is fourteen years of age or less and only 2.8% is 65 years of age or over. It is a highly mobile population. In 1979, 6,000 residents left the Territories and 5,000 new residents arrived, giving in effect, a population change of 23%.

The population affected by the Pharmacare program for senior citizens, however, when combined with the supplementary programs of the Department of Health, the Indian and Inuit program of Health and Welfare Canada, and the Indigent program from Social Services are added, the coverage extends to approximately 55% of the population.
Figures from other sources (Hospital Insurance and Medical Care) indicate that the Indian and Unuit population have become cognizant of the medical systems and use it with less and less intimidation as the younger children grow older. The percentage of N.W.T. Medical Care consumed by Indian and Inuit has risen from 32% to 35% over the past three years while the hospital utilization has risen from 48% to 50% over the same period. The population cannot be classified high or low users of pharmaceuticals. The possibility that there may be drug-resistant strains of bacteria means that particular drugs have been used in some volume in the Territories.

There are only six private pharmacies in the Northwest Territories (Fort Smith, Hay River, Pine Point, Inuvik, Yellowknife (2)). In Frobisher Bay, the Hospital operates a pharmacy and pharmaceuticals may be dispensed through a private physician's office. Forty of the other settlements receive drugs dispensed by a nurse practitioner at nursing stations. The remaining settlements receive drugs dispensed by lay dispensers (responsible people chosen in their home community).
The Northwest Territories prior to July, 1979 had three separate prescription drug programs with distinct criteria. The administration and operation of these programs had economic and logistic problems.

A Federal program operated by Health and Welfare Canada was based on ethnic status (Treaty Indian or Inuit) and Indigency. The program of the Territorial Government Department of Social Services was for all Indigent residents of the Northwest Territories. There was overlap in the area of indigency and difficulties arose in distinguishing the responsibility of each party. The third program was jointly operated by Health and Welfare Canada and the Government of the Northwest Territories' Department of Health. It was based on confirmation by a physician of a resident having one of twelve supplementary illnesses. Health and Welfare Canada handled the Administrative operations of the latter program.

Economic Problem

The principal criteria checked status and residency. Drug quantity, type, price or patient eligibility for a supplementary program could not be clearly checked against a standard. The method of identifying the eligibility that existed was too cumbersome to maintain and consequently was ineffective. Payments to vendors ran from three to six months as forms passed through as many as three separate bodies before reaching the responsible paying agent.
claims forms contained more than one responsible agency which required passing the form around or intergovernmental invoices and transfers. Policies were not clearly defined and the whole system was getting out of control as staff turnovers depleted the reservoir of common knowledge.

No method of analyzing prescribing habits, dispensing practices, utilization habits or cost expenditures existed. It was not possible to currently forecast expenditures based on previous utilization patterns.

Logistic Problems

Vastness

The vastness of the Northwest Territories and the distances between communities complicated the distribution and control of prescription drugs. Nursing Stations which serve as dispensaries for forty of the communities in the N.W.T. did not have a formulary. There was no consistency between Nursing Stations as to what drugs were available. A better method of recording drugs dispensed from a Nursing Station was required.

Coverage

The introduction of the new program was accepted on the basis that the existing programs could be consolidated while retaining the existing paying agents. The latter criteria presented some internal design problems but they were overcome by the use of the ethnic status identifier located in each resident's Health Care Registration Number.
These problems produced a climate that permitted an administrative error to extend the twelve illnesses program to 67 (the Statistics Canada Chronic Disease List, see Appendix C.) The error went unnoticed for a sufficient length of time to make the public feel a new program had been introduced.

The correction of the error to that program raised the issue of free prescription drugs for all residents. This was financially not possible and the Legislative Assembly of the G.N.W.T. recommended adding a program for Senior Citizens. The lead time permitted was three months (March - July, 1979).
Summary

This Chapter has reviewed the setting, past and present, into which Pharmacare as an insured benefit has been placed. The original concern appears to have been with costs. It spread to further investigations of the manufacturing industry by Kefauver and Harley. The presence of pharmaceutical benefits through another program such as the Hospital Insurance and Diagnostic Services and the Canada Assistance Act kept it, it is believed, from being introduced with Medicare in 1967, as recommended by the Hall Commission. Continued pressure in the early and mid-seventies resulted in programs for the aged in some provinces and universal programs in others.

The Chapter also reviewed relevant literature on the planning of public sector programs and the literature on Pharmacare programs. The planning can best be described as bureaucratic or mixed scanning using an incrementalist approach.

The demography outlined the physical constraints of operating in an area with a population of 46,400, spread through 59 settled areas, three cultures and languages and a harsh climate.

The problems that precipitated the introduction and subsequent design of the program such as the existence of three separate programs, administrative difficulties, economic and logistic factors were discussed. These problems made it more reasonable to design a
new system that included the three previous programs rather than add the Senior Citizen program to the existing method.

The program lead time for implementation was three months (March – July, 1979). While it was necessary to review the literature and theory it was more important to look at the current practice by provinces.

The choice of comparative planning (Chapter 2) can be attributed to the information available and the time frame of the project. Comparative planning leads to incremental planning and design once the objectives and major decisions are made (Chapter 3). The project is then evaluated and some implications for use elsewhere are put forward (Chapter 4).
CHAPTER 2
COMPARISON OF FOUR PROVINCIAL PLANS

The comparative approach highlights the major features of the existing pharmacare programs. Once they have been delineated and compared according to the same criteria, it is possible to construct from the data, a program that meets the needs identified by the problem.

Muller\(^45\) reviewed some of the private drug programs in the United States. She developed a framework for comparing them that consisted of:

1. Reimbursement to Vendor
2. Control Costs
3. Benefit Distribution
4. Quality Control.

A finer breakdown was required in order to cover all aspects of the problem and eight major features were identified as key to the program planning:

1. Beneficiaries
2. Drugs Covered
3. Cost Sharing by Patient
4. Reimbursement of Product Costs to Pharmacist
5. Reimbursement of Dispensing Costs to Pharmacist
6. Reimbursement Method
7. Data Processing
8. Control of Program Quality.
These major features, considered the major decision points around which the program was constructed, were the basis for comparison of existing provincial plans.

The plans chosen for comparison were British Columbia, Manitoba, Saskatchewan and Ontario. These four plans are extensive and have had a major though not vital impact on the pharmaceutical industry. The impact is such that a change by other jurisdictions with the exception of Quebec and Alberta will not affect the system of manufacturing and distribution currently in place.

**British Columbia**

British Columbia's first program was for residents on Social Assistance in 1933.\(^{46}\) It expanded to include prescription drugs for all persons 65 and over on January 1, 1974.\(^ {47}\) The program gradually extended to cover the handicapped and nursing home residents as well as the indigents. In April, 1977, the "over-the-counter" component of this program was discontinued due to a concern about rapid increases in drug consumption by Pharmacare recipients. The government introduced, however, a universal program with a $100 deductible in June of 1977 to:

- protect against catastrophic drug expense
- specifically inclined to aid individuals with chronic illnesses.\(^{48}\)
The British Columbia program is a universal program with two groups of beneficiaries. Group One (the elderly, handicapped and indigent) are offered full coverage. Group Two are offered 80% coverage after the total expense has reached $100. The rationale of the $100 limit may be related to the income tax deduction for medical expenditures.

British Columbia has no formulary or restrictions on prescription drugs as a benefit other than those approved under the Food and Drug Act and those listed in the Compendium of Pharmaceuticals and Specialties.

The amount paid to the pharmacist is the acquisition cost, that is, laid-in cost to the pharmacist. There is no reimbursement for mark-up. The dispensing fee paid the pharmacist is a percentage of the average fee of a group of pharmacies chosen for comparison. For example, pharmacists in a particular region are compared and an average taken of the dispensing fees.

Financing arrangements of the universal program appear to reflect the Social Credit philosophy to protect the small private entrepreneur.

The pharmacists bill direct to the plan for fully covered Group One residents and the billing is to the patient for Group Two. Group Two, in turn, are provided with duplicates of the
prescription label which the patient then attaches to a sheet that is submitted when the amount exceeds $100 per annum. There is no limit per person and the amount reimbursed is 80% of the amount exceeding $100. \textsuperscript{52}

The British Columbia Pharmacists' Society is paid a fee relating to the number of prescriptions issued in British Columbia to undertake a peer review on behalf of the government. \textsuperscript{53}

\textbf{Manitoba}

The information on Manitoba relies heavily on Manore. \textsuperscript{54} Manitoba first introduced a program for the aged in 1973. It cancelled the program in 1975 and instituted a universal program with a deductible on January 1st of that year. The program extends to all Manitoba residents who are registered with the Medicare program. There is no global formulary but rather a Manitoba Drug Standards and Therapeutic Formulary that lists twenty-two drug entities for which there is mandatory substitution. To be considered a benefit the drug must be listed as a prescription drug in the Compendium of Pharmaceuticals and Specialties. "Over-the-counter drugs are not covered.

It is a fully insured benefit for nursing home residents of the province. All other Manitoba residents may be reimbursed for 80% of the cost that exceeds $50.00.
The pharmacist bills the drugs at usual replacement costs and the dispensing fee is negotiated by the Manitoba Pharmaceutical Association with the Manitoba Health Services Commission.

The method of reimbursement used in British Columbia was first introduced in Manitoba. A duplicate of the container label is attached to a form and submitted by a patient when the sum of $50.00 has been exceeded.

Saskatchewan

The Saskatchewan system is slightly different. It is a universal program with no preferred beneficiaries. The patient makes a small payment toward the cost of each prescription. It is perhaps the influence of a socialist government that inspired the approach.

Saskatchewan has a Formulary updated on a periodic basis and published semi-annually. The Formulary contents are overseen by a Formulary Committee. Benefits are restricted to the Formulary. There is mandatory substitution, among drugs determined interchangeable, to the drug of least cost, unless specifically stated otherwise by the physician. Saskatchewan has an "exception drug status" where drugs outside the Formulary can be approved as a benefit. It is used in instances when an infrequently found clinical indication arises or the drug is normally given in a hospital but it is given outside the hospital.
due to unusual circumstances.

Saskatchewan's approach to cost sharing by the patient is different from that of British Columbia or Manitoba. In British Columbia and Manitoba the patient pays the full amount (drug cost plus dispensing fee) and seeks reimbursement for 80% of the expenditures that exceed a fixed sum (British Columbia $100, Manitoba $50). In Saskatchewan, the patient pays a co-payment toward the dispensing fee portion of each prescription. The amount of that co-payment is regulated by the government.\textsuperscript{56} For example, if the negotiated maximum dispensing fee is $3.22 per prescription and the government's contribution to the dispensing fee/prescription is set at $1.00, then the maximum co-payment that a patient could make is ($3.22 - $1.00) $2.22 per prescription.

The presence of the Formulary and the patient co-payment results in direct reimbursement by the government of drug costs to the pharmacists and does not place the burden on the patient as in British Columbia and Manitoba. The Saskatchewan Formulary has the prices printed in it. The price printed is the result of guarantees of the manufacturer regarding quantity. It is the maximum price on the standing offer agreement. The pharmacist, however, must bill at acquisition costs and may be audited to make sure that such is the case.\textsuperscript{57}

The pharmacist must substitute the lowest cost drug in the
Formulary unless the "no substitution" is indicated by the prescriber. One argument against this method is that there may be a tendency for the little manufacturers to get squeezed out of business in which case the larger manufacturers have no competition and reach a monopoly situation, thereby controlling price negotiations.

The patient contribution toward the dispensing fee is a discretionary item for the pharmacy and therefore induces some competition between pharmacies. As well, it reinforces the notion of patient's responsibility for their health. The establishment of the dispensing fee is a negotiated rate between the Saskatchewan Pharmacy Association and the Ministry of Health. It negotiates a maximum dispensing fee for the first 20,000 prescriptions by a pharmacy and a second dispensing fee for those in excess of 20,000.

It is the Saskatchewan Drug Program which undertakes, through its automated computerized data collection and its review committees, the review of the pharmacists and prescribers dispensing and prescribing habits.

Ontario

The Ontario approach has been two-fold. In 1970 it established PARCOST (Prescription Drugs At Reasonable Cost), a voluntary plan aimed at developing economies throughout the pharmaceutical industry, encouraging fair competition and
efficient methods of distribution and utilization. The program initially was aimed at educating and assuring physicians that lower cost drugs were of assured quality. Pharmacies participated voluntarily and agreed to a maximum dispensing fee and to charge the cost of the drug indicated in the PARCOST Comparative Drug Index which lists comparable pharmaceutical products of assured quality in order of cost. Substitution legislation was passed in 1972 ensuring that the price charged will be that of the lowest cost drug where interchangeable and not otherwise directed by the physician.

In 1974, the Drug Benefit Program was introduced for specific individuals. It was modified in 1975 and 1976 so it now includes:

all residents 65 years of age and over who receive old age security, who have resided in Ontario for twelve months prior and were Canadian citizens or landed immigrants; guaranteed annual income recipients and persons receiving family benefits allowance as well as those under general welfare.

The Plan uses the PARCOST index combined with the drug benefit formulary to produce a formulary code drug benefit formulary/PARCOST comparative drug index. The formulary may be supplemented when an issuance of a formal special authorization to pay a drug has been given to the prescriber. The plan has no co-payment charges. It reimburses the pharmacist for the cost of the drug at the price in the formulary enabling gains to
be made on bulk purchases. A dispensing fee is set by negotiations between the Ontario Pharmacists Association and the Ministry of Health. Claims are submitted on a 20 line invoice with fully automated computer assessing.

Analysis

Three of the four plans reviewed have much in common, however, the fundamental differences between having a patient deductible can be seen from Table 3. This Table illustrates that in 1978 while British Columbia had 2,000,000 eligible residents, only 149,000 or 7.45% took advantage of the program. The number who spent $100 and didn't claim is unknown. Manitoba which has been in operation longer, had a 20% utilization. This can be attributed in part to familiarity but more to the size of the deductible. The deductible in Manitoba is one-half of what it is in B.C. The patient cost sharing or co-payment drastically reduces government expenditure. If the objectives are to provide benefits to those in greatest need then it becomes debatable whether these programs meet that end. British Columbia and Manitoba's manner of approaching the topic certainly address those with the greatest expenditure. In addition, both programs have full coverage for senior citizens, nursing homes and others for whom drug expenditures would be a hardship but it is not axiomatic that expenditures are linked to need. The program
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* Estimated only

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of Saskatchewan with treble the utilization of Manitoba and quadruple the utilization of British Columbia, has only one-third more in expenditure. In fact, Saskatchewan per capita is almost identical to British Columbia. The lack of a formulary may be the reason that the total cost is high in British Columbia.

An important feature is substitutionability of interchangeable drugs. Saskatchewan, Manitoba and Ontario make it mandatory. British Columbia without a formulary cannot make it mandatory.

The best combination of approaches therefore, laying aside such political things as the protection of small pharmacies which is built into the British Columbia program, appears to be a formula with fixed maximum costs such as Saskatchewan and Ontario but requiring acquisition costs to be submitted. Other rational features are; mandatory substitution for interchangeable drugs to the lowest cost drug and a negotiated dispensing fee combined, with a deductible of $100. These features would give the program control available to Saskatchewan with the assurance to governments that they are spending funds on those who would classify as needy. But universal programs rather than selected beneficiary programs, have not justified themselves. If one compares the average cost/prescription per person benefiting from the British Columbia program to the average cost per prescription of the number of persons from the Saskatchewan program, one arrives at a ratio showing that British Columbia covers the
primarily high users while Saskatchewan covers the high and the low users. Therefore, in Saskatchewan's case, there is a greater transfer of wealth but not necessarily to all those who need it.

The approaches of Saskatchewan and Ontario by direct reimbursement to pharmacies, is the most rational for their systems. British Columbia though, exhibits the best approach for peer review. Given all this, the N.W.T. should have produced the ideal rational plan but bureaucratic planning cannot be entirely rational, it is encumbered by existing political, economic and administrative idiosyncrasies. Therefore, the plan produced for the N.W.T. achieves some of the rational features of the existing plans but then goes beyond them in other areas and falls short in some others. It may, however, be termed as an incremental approach, building on the knowledge of the existing programs and features which have worked well for them and viewing the field relative to the Northwest Territories in implementing something which will meet the peculiarities of that jurisdiction and its extensive population spread and method of supply and distribution.
Summary

This Chapter has exhibited some of the fundamentals of bureaucratic planning and provided detail on comparisons of existing provincial programs.

Bureaucratic planning or mixed scanning involves first a broad view of the field followed by the selection of critical features to be followed. The initial features chosen were eight major components that the planner felt were required to introduce a Pharmacare program. Secondly, bureaucratic planning involves a review of existing solutions to similar problems. This was done by a comparative review, along the lines of eight major features, of the four major public prescription drug programs in Canada.

The review and subsequent analysis demonstrate that there are many approaches each chosen to meet political ends or objectives.

Thirdly, bureaucratic planning includes the selection of objectives and the incremental approach to be used in moving from the existing situation to the new one. This will be the subject of the next Chapter on planning and design.
CHAPTER 3

PLANNING AND DESIGN

This Chapter discusses the planning used by the planner in order to put in place a Pharmacare program. It discusses the selection of the criteria used to put the program in place and following that, an extensive review of the design procedure.

The problem facing the planner is one that is not new. In the days of tight financial restraint, there is need to consolidate and rationalize services and administration as much as possible. In this instance, the Northwest Territories' consolidation of three programs and rationalization of the administrative procedures was able to add a new category of beneficiaries and offer a new program without extensive administration costs.

Planning

The mandate given the Department of Health was to consolidate the programs and introduce a Senior Citizen's program. This mandate was not given in the form of legislation but rather through an appropriation of the Financial Legislation. The planning was therefore left in the hands of the bureaucracy.

Planning Structure

Once the mandate had been clearly documented and the parameter of funding identified it became necessary to establish a firm planning structure in place. The structure had clearly defined
rules. Participants had to be cognizant of the limits of their
decision capability and a clearly understood jargon and procedure
for communication between the groups was put in place. No where
did this become more apparent than in the field of computing.

The pyramidal structure established for the implementation
of this program was:

Participants/Input

```
Minister
  STEERING COMMITTEE
    Public
    Providers
    Physicians
    Internal Government Departments
    Internal to Department
```

The terms of reference of the Steering Committee were:

1. Policy decisions within parameter of Executive mandate.
2. Functional guidance.
3. Establishing terms of reference, objectives and goals for
   sub-group(s).
4. Accountable to the Minister for all design and implementation
costs.
5. Sign-off on Systems design.
6. Determine information requirements.
During the initial steps it was necessary for the Committee to meet three times a week to identify the scope, tender documents, interview and select consultants, define policy and establish working groups.

**Project Team**

The project team's terms of reference were:

1. Interpret policy decisions into systems design.
2. Recommend changes where necessary.
3. Interface with an operational group of users.
4. Prepare necessary computer system documentation.

The project team leader sat in on all Steering Committee meetings but without a vote.

The system of communication decided upon was called P.R.I.D.E. (PRofitable Information by DESign). This is a precise method of communication that forces the user, the designer and the manager to discuss, define, agree and sign off all major areas at pre-ordained stages. It has its own jargon. It is one of several communication systems available, however, the important fact is that some methodology of communication was defined and adhered to, to the letter by all parties concerned.

Once the decision structure was in place, and the method of communication set, then the next stage was a statement of objectives and broad policy decisions.
As Eckstein notes, it is the task of the planner somehow to translate "values" with all their ambiguities and inconsistencies into a consistent, rationally calculated and - not least - politically defensible system.

Objectives

The choices of goals and criteria involve value judgments. Value judgments cannot, by their nature, be strictly rational judgments because they seek to serve many objectives, not all of which are rational.

The objectives of the drug insurance program can be viewed in three categories:

1. Effectiveness - the rational use of drugs to achieve and maintain the best possible health.
2. Efficiency - the cost of the program must be kept under control and to the lowest reasonable level.
3. Ideological - the program should benefit especially those with the greatest drug costs and the least financial ability to meet these costs.

The objectives are targets and it was the task of the planner to chart the path to those objectives. This was done by identifying the critical decision areas.

This type of approach is perhaps best categorized by the
term "mixed scanning" as outlined by Etzioni. Etzioni's approach was applied to the field of study, in this case Pharmacare, and we identified the major features. This being accomplished, a review of the major points of the features, then followed. It involved a comparative approach. It required selecting, assessing and refining the options until the eight decisions were not only internally consistent but offered an efficient and flexible program.

Eight Major Decisions

The fundamental points of the program were determined to be the following eight:

1. Beneficiaries.
2. Selection of Drugs Covered.
4. Reimbursement for Product Cost to Pharmacist.
5. Reimbursement of Dispensing Cost by Pharmacist.
8. Control of Program Quality.

Each of the major decision points had several options. It was necessary to choose one or a combination of them to tailor the plan to the Northwest Territories.
1. Beneficiaries

The first major policy decision was the selection of beneficiaries. Once the subject, having pharmaceuticals as an insured benefit, was breached, then there were several options. At one end of the spectrum was the option to institute a universal, comprehensive program. This was not financially possible. At the other end was "no coverage" which was not politically possible. It was necessary therefore, to select groups of beneficiaries.

Normally, the selection of groups would be based on some fundamental criteria, e.g. either age, illness or financial need. In this case, there were four major criteria:

1. Ethnic status.
2. Financial need.
3. Illness.
4. Age.

The first three were criteria already in place in existing programs. The fourth was added as the new program by the legislative assembly.

**Ethnic Status**

The first major group is the Status Indian and Inuit. All Status Indians and Inuit by virtue of their ethnic status, receive prescription medication listed in the N.W.T. Formulary, free of charge. This represents approximately 50% of the population, numbering 22,500.
Indigent, Illness

The second major group is the indigent. Residents of the Northwest Territories and their dependents certified as indigent by a Welfare Officer, receive prescription medication listed in the N.W.T. Formulary, free of charge. This coverage extends to approximately 660 people, or 1.4% of the population. The third major group are the residents of the Northwest Territories, with one or more of these twelve specific illnesses:

- Cancer
- Pernicious Anemia
- Tuberculosis
- Phenylketonuria
- Cystic Fibrosis
- Veneral Disease
- Chronic Psychosis
- Diabetes
- Coeliac Disease
- Rheumatic Fever
- Epilepsy
- Rheumatoid Arthritis

The residents with one or more of these twelve illnesses represent approximately 1,300 people or 2.7% of the population.

Funds were not available to cover the outstanding 55 illnesses listed on the Chronic Disease List. Therefore the twelve were chosen according to what had been prior federal practice across the country.

The option available in determining beneficiaries was to extend coverage to all residents or to another segment of the yet uncovered group. Full extension was too expensive. Of the remaining population (other status and non-indigent) the age grouping of 65 and over had been identified by Adamson as being the most frequent users of medicine.
The end result is a mixture of beneficiary options. It is a universal plan for residents of particular status (Treaty Indian and Inuit). For the rest of the population, it is selective on the basis of three quite different criteria (age, indigency and illness).

The selection of these groups removes economic barriers to high users on low income. In relation to clinical benefits that are received, increases in expenditures are moderate.

The beneficiary listing was to be a sub-file of the Medical Care Hospitalization file of the Northwest Territories. This was possible due to the construction of the Medicare Registration Number. There is a unique number for each resident and within that number is coded the person's ethnic status. The file can also be cross linked to age and illness to create the necessary master beneficiary file.

Objectives Satisfied by Beneficiary Listing

The selection of the mixed option satisfied many objectives. The need of the Federal Government to be able to deliver a program to all Indians and Inuit is satisfied. The need of the Territorial Government's Department of Social Services, to deliver its welfare program is satisfied. The need of the Territorial Government's Department of Health to deliver its program for twelve illnesses and senior citizens has been satisfied. With this extensive beneficiary listing, the major areas are covered without the introduction of a universal plan. By incorporating all beneficiaries into one program, it satisfied the need to come
to grips with the amount of money being spent on prescription programs and administration. Use of the Medicare Registration file to collect ages permitted the introduction of the system without much public interruption.

2. Selection of Covered Drug Products

The Use of Formularies - Pharmacists, Product Selection

Policy decision on the use of a formulary was derived from a requirement to meet two objectives, first the availability of drugs, second the program costs.

Availability of Drugs

The N.W.T. is comprised of many settlements with small populations. It is not practical to expect that each one of these settlements would be able to stock a full spectrum of drugs and keep up to the compendium of pharmaceuticals and specialties. Programs of ordering, shipment, storage, transportation and re-ordering are immensely compounded by the great distances and weather. The spectrum of dispensers can range from a priest with some instructions acting as a lay dispenser, to a nurse-practitioner, to a qualified pharmacist. The fact that many communities are visited by travelling specialists brought in from the South led to drugs being requested that they preferred. There was no consistency in specialists visiting an area. As well, there was a need for a method of determining quantities dispensed in order to prevent abuse.
Control

The second objective met by the use of a formulary is program control. By controlling the drugs which are listed as a benefit, the program can be molded toward more rational prescribing. Control of drugs listed as a benefit can mean the exclusion of high priced drugs of no known added therapeutic value.

Consistent with all plans across Canada, over-the-counter drugs have been ruled out as a benefit. The rationale behind this is that they do not require a prescription and therefore, can be ordered at pleasure and subsequently, there is no control.

A review of the provincial programs indicated that basically, three options were available. One, no formulary - British Columbia, Alberta, Nova Scotia, Prince Edward Island and Newfoundland. Two, partial formulary - Manitoba. Three, formulary - Saskatchewan, Ontario, Quebec and New Brunswick.

The option of a formulary was chosen after the comparison of the clinical and economic impact of the options. The formulary offered the maximum amount of control in determining drugs dispensed in the Northwest Territories outside of a private pharmacy. It also offered a measure of control of drugs stocked in the private pharmacist's since approximately 50% - 53% of the population is affected.

Selected drugs from the formulary were used to construct a Nursing Station Formulary and Lay Dispenser Formulary. The
rationale being that they serviced a smaller area and therefore did not need as wide a selection.

The drawbacks of a formulary are the continuous maintenance, the arguments with manufacturers and complaints by physicians about restricting their method of practice. It was felt, however, that the economic benefits and control outweighed the problems associated with a formulary.

The decision to have a formulary required the establishment of a mechanism to keep the formulary up-to-date. The mechanism chosen was a Formulary Advisory Committee comprised of:

1. A specialist in internal medicine.
2. A general practitioner.
3. The medical programs officer (a physician) of Health and Welfare Canada.
5. A pharmacist from one of the N.W.T. hospitals.
6. A representative of the Department of Health who chairs the meetings.
7. A secretary to the Committee from the Department of Health.

The terms of reference are:
1. Advising the Department of Health on issues relating to the N.W.T. Formulary for the Pharmacare Program for Senior Citizens;

2. Routinely review the contents of the Formulary; suggest additions, deletions and other amendments;

3. Make recommendations regarding the therapeutic effectiveness of drug selections;

4. Make recommendations regarding the overall policies respecting the content of the Formulary;

5. Advising the Department of Health on matters of professional review of a pharmacists activities.

The Committee meets on a regular monthly basis to review all matters properly addressed to it. Communication from the Committee goes by way of an Info-Bulletin by the Department of Health to all professionals and interested consumer groups.

Substitution

Coincident to the decision on a formulary, is the decision on substitution (mandatory or voluntary) of drugs which are deemed interchangeable. Several factors led the planner to opt for a voluntary substitution. The first was that research on particular drugs was not conducted in the Northwest Territories. The Formulary Committee established to administer the formulary had to rely on Federal and Provincial research so it could not say definitively that one drug is equally interchangeable with another. The second reason was the lack of supporting legislation for
this type of activity. The third was that the method for payment for drugs prescribed was not a fixed value per drug for a long period (i.e. one year) rather it was based on the wholesale drug price which fluctuated from time to time.

Objective Resolved by use of a formulary

The use of a formulary met the objective of control necessary to exercise responsible spending of public funds.

3. Cost Sharing by Patient

The third major policy decision in formalizing the role of the Government in this project deals with cost-sharing by patient (User Fees).

To properly present the position of the Northwest Territories, it is necessary to digress a little into the definition and concept of User Fees. The comments and ideas in this section were influenced by material prepared by Barer, Evans and Stoddart, Evans and Williamson, the Ontario Council of Health's report on User Charges for Health Services and Soderstrom.

Definition

User Fees are charges imposed on people who use the Health Care System, proportionate to the amount they use it, either by charges imposed at the time of use, or assigned subsequently on the basis of use.
Common Types of User Fees

Co-Insurance
The patient is required to pay a certain percentage of all costs incurred on his behalf.

Deductible
Requires that the patient pay 100% of all bills in a given period to some maximum amount beyond which insurance benefits are paid.

Per Service Charge
Requires that the patient pay a flat charge which may or may not be related to the actual charge of providing the service.

There are two basic arguments postulated as to why User Fees should be introduced.

i. Cost Containment

The recommendation of User Fees is often based on the presumed existence of patient abuse of the system. Proponents argue that User Fees will make patients aware of the cost of providing care so that utilization of frivolous or unnecessary services will decrease. There is little evidence to suggest that patients are the primary generators of marginally needed care for patients have only a limited role in effecting their utilization of health services; i.e. physicians have the critical role in virtually all treatment decisions. For User Fees to reduce the over-all cost of health care, four major assumptions would have to be satisfied:

(a) Patients must be sensitive to prices in making decisions about health care use. Patient initiated
health system contacts must follow in response to the user charge.

(b) Private insurance must not step in and provide coverage for the user fee. High levels of direct charges would presumably be necessary to achieve deterrents. Since this would increase the financial risk to which the ill are exposed, the purchase of supplemental private insurance and the provision of government subsidies to the poor and aged would be encouraged. If direct charges were high, it would not be politically feasible to ban private insurance. If direct charges are insured privately, the deterrent effect is nil.

(c) Providers of health care must not react to the user charge in such a manner as to affect any reduced utilization. Physicians possess significant power to influence utilization directly and the concept of supplier-induced demand is now widely accepted by health economists.

ii. User Fees as a Source of Revenue

With the introduction of the User Fee, some of the responsibility for health care financing is shipped back to the private sector. This injection of private funds can lead to an enlarging of the funds available for health care rather than effecting cost reduction. Overall health care costs could be reduced if User Fees lead patients to seek out more efficient, lower cost forms of delivery. This process would hinge on two important conditions:
(a) There must be price variation between suppliers. Provider charging behaviours must be truly independent, open and advertised. There must be no collusion between health providers to establish uniform charges; and
(b) Patients must be able to judge service quality and resort to a rough judgment of quality by price.

Since the single outstanding characteristic of the health care market is the inability of the consumer (patient) to judge the need for service or the quality of service, there must be some intervention by a third party, to provide an adequate level of information. Regulatory mechanisms may have to be established to ensure that adequate quality and safety standards exist for the services provided.

Saskatchewan's position on charges is the clearest example of a direct charge satisfying these conditions. The Plan covers the full ingredient costs of the drug (patients generally are not able to evaluate their own need for a particular drug nor are they aware of the relative merits of one drug over the other), but not the dispensing fee. Pharmacies are allowed to advertise their dispensing fees so that the patients have sufficient information to choose between dispensers on the basis of their relative prices. To the extent that the dispensing fees create competitive pressures, lower price pharmacies will be able to expand their market share at the expense of higher priced, less efficient dispensers. The existence of the N.W.T. Formulary
provides the regulatory mechanism ensuring quality and safety standards, which the patient is unable to judge.

The systems of British Columbia and Manitoba do not allow for the second factor since they do not have formularies.

As discussed earlier, the two basic arguments postulated for the introduction of User Fees are:

(1) To contain health care expenditures by reducing unnecessary utilization; and

(2) To provide an additional source of revenue.

In the Northwest Territories, special circumstances suggest that the introduction of User Fees for health services would not achieve either of these objectives.

Status Indians and Inuit who make up 50% of the N.W.T. population would be excluded from direct charges. Even within the "other" population, the low income and aged would have to be excluded for economic reasons. By reducing the number of residents eligible for paying User Fees, the potential for User Fees to generate additional revenue is seriously reduced.

There would be no guarantee that services deterred by a User Fee, would be those least medically necessary. If people were being deterred from necessary medical care, this would contravene the equal access objectives on which universal health
insurance is based.

The administrative machinery necessary to collect User Fees for health services in the Northwest Territories does not currently exist. Consequently, a mechanism would have to be established at considerable expense. Even then there would be no guarantee that patients would comply with the User Fee requirements and pay their bills. Uncollectibles were a serious problem for health care providers before the advent of universal health insurance.

The coupon system of Manitoba and British Columbia was ruled out as well because of administrative difficulties arising from language problems. In the Northwest Territories, there are six dialects of Indian languages and two manners of speaking the Inuit language. For the elderly, this would be such an administrative burden, that many individuals would lose their bills or neglect to submit a claim.

The Northwest Territories chose not to require a User Fee. It opted, however, to have the system designed such that it could accommodate several forms of User Fees if introduced in the future.

Objectives Resolved by omitting any co-payment

This decision resulted in a compromise of the objective. The objective was to reduce costs to government as well. This decision, however, permitted a less costly administration with
fewer problems. It was considered that the revenue gained or expenditure saved was indeed equalled by the administrative expenditure saved.

4. Reimbursement for Product Cost to Pharmacist

Two factors are covered in determining the full retail price of a prescription. One is the product cost - the cost at the wholesalers' or manufacturers' level. The second is an added percentage mark-up or a fixed professional fee. In some cases, a combination of percentage mark-up and professional fee is used.

The provincial review indicated that the spectrum of reimbursement for product cost could range from acquisition cost (meaning laid-in price to the store, British Columbia) to customary replacement costs (supplier's price plus the wholesaler's mark-up), to fixed prices (prices fixed for a period of time - Saskatchewan).

The Northwest Territories' situation centred around the simplest method of identification of cost both by the pharmacist and the Program. The Program is not large so it was not administratively wise to tender as Saskatchewan does. The Program did not have sufficient competing pharmacies to follow the free market concept of British Columbia but it wished to offer the pharmacists some protection.

The decision reached was to take the wholesale price (laid-in to the wholesaler) of the company that supplied the majority of the
private entrepreneurs and permit a percentage mark-up of the wholesale plus administrative and transportation costs. The result was a wholesale (microfiche) price plus a mark-up dependent upon location of the dispensing facility. The mark-up ranges were from 25% to 35%. The weakness inherent in the mechanism is that each time a product cost rises, there is a windfall benefit to the pharmacies resulting from the percentage markup.

This permitted a simplistic pricing system. Both the pharmacists and the Plan received the microfiche from the wholesaler plus the normal up-dates. Quantity prices put into the system are for the more commonly dispensed sizes. The pharmacists may buy higher volume and receive a lower price from the wholesaler and therefore, enjoy a surplus against the program but instances are so few that it is compensated for by their risk in capital outlay.

The quantities purchased by the Northwest Territories are not significant in the volume of business with either the manufacturer or the wholesaler, therefore the practice does not act as an incentive for the manufacturer or wholesaler to raise his prices inordinately, since they still must compete on the large southern private market.

**Objective met by the pricing system**

The objective of achieving a simplistic system was met. It did away with extensive research, tendering, bargaining and
audits of acquisition costs. With voluntary substitution of the lowest cost interchangeable in their inventory, it permits flexibility on behalf of the pharmacist.

5. Reimbursement of Dispensing Costs by Pharmacists

The objective of the Department in this area coincides with that pointed out by the Hall Commission. That is, that there be fair and reasonable compensation to the pharmacist. Fair and reasonable compensation is linked to various orbits of comparisons.

Two fundamental options were available to the Northwest Territories:

1. To base the dispensing cost as a percentage mark-up of drug costs; or
2. To base dispensing costs on a fixed professional fee.

Pharmacists are professional, therefore prescription drug coverage must extend beyond the routine dispensing. A range of pharmaceutical services should be offered. Some of these services are:

1. Keeping a patient profile that includes allergies, if known, and patient drug reactions, if known.
2. Advising the doctor of contra-indications where prescriptions conflict.
3. Appropriate consultation on the use of drugs with the patient when dispensing.
4. Cautioning the patient against overdosage or what to do if the patient forgets to take the drug.
5. Alerting the physician if it appears that the patient may be stockpiling drugs.
For this type of a professional service, there should be adequate compensation.

The decision taken was to pay a fixed professional fee for each prescription dispensed. This fee would be negotiated annually. An historical precedent had been set in this instance but the decision is supported by the argument that regardless of the product dispensed, the professional advice should be complete. Product cost is more reflective of patents, marketing and newness to the market; therefore it has little bearing on professional advice. The fee negotiated provides a fair and reasonable payment for services rendered. If the extent of the service is counting pills, then it deserves less compensation.

The single dispensing fee rate for each prescription is a simple, easy method to monitor. Co-incident with this runs a minimum prescription period depending on the drug dispensed. Drugs were categorized as to whether there should be a 34, 60 or 90 day quantity dispensed.

6. Reimbursement Method

The procedure by which a health benefit is paid for is often thought to be linked to utilization. It has been speculated that if the patient paid and was reimbursed, then he would understand the cost of the service and the utilization would be less than if he never saw the bill.
A review of the provincial plans found that the universal programs of British Columbia and Manitoba worked well because of reimbursement to patient. Saskatchewan's reimbursement to pharmacists worked equally well. The difference between these plans was a function of the method of User Fees.

The decision in the Northwest Territories was to reimburse the pharmacist with the option of reimbursing the patient. This, it felt, would result in a lower administrative cost because there would be fewer number of claimants.

The cash interest value forgone by the method is estimated at less than 1/10 of 1%. The option is meeting the simplistic turnaround required. The average time between the date of service and the date of receipt of invoice is to be estimated at ten to twenty days (most pharmacies prefer to bill weekly or bi-weekly). The average time between the date of receipt and date of payment is estimated at ten to fourteen days, making the turn-around time within reasonable business limits. The Program presently pays weekly. This does not severely impact on the cash management of the Program since sums are not large. Table 6 indicates the estimated cost of the Program for Senior Citizens.

7. Data Processing

The Northwest Territories by comparison with the provinces


<table>
<thead>
<tr>
<th>TABLE 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Program Costing: Pharmacare for People Over 65 Years</strong></td>
</tr>
</tbody>
</table>

### PART ONE - Cost Determination

<table>
<thead>
<tr>
<th></th>
<th>1978-79</th>
<th>1979-80</th>
<th>1980-81</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Cost Per Prescription (Alberta)</td>
<td>$ 7.43</td>
<td>$ 7.43</td>
<td></td>
</tr>
<tr>
<td>LESS: Dispensing Fee</td>
<td>3.45</td>
<td>3.45</td>
<td></td>
</tr>
<tr>
<td>Average Drug Cost Per Prescription</td>
<td>3.98</td>
<td>3.98</td>
<td></td>
</tr>
<tr>
<td>PLUS: 25% NWT coverage</td>
<td>1.00</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>Inflation (est. 10%)</td>
<td>*</td>
<td>- 0.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.98</td>
<td>5.48</td>
</tr>
<tr>
<td>PLUS: NWT Dispensing Fee</td>
<td>3.70</td>
<td>3.95</td>
<td></td>
</tr>
<tr>
<td>Average Cost Per Prescription</td>
<td>*</td>
<td>$ 8.68</td>
<td>$ 9.43</td>
</tr>
</tbody>
</table>

### PART TWO - Estimated Useage

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population over 65 years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Active Users (80%)</td>
<td>*</td>
<td>1,340</td>
<td>1,410</td>
</tr>
<tr>
<td>Estimated Number of Prescriptions</td>
<td>*</td>
<td>1,072</td>
<td>1,128</td>
</tr>
<tr>
<td>(one script per person per month)</td>
<td>*</td>
<td>12,864</td>
<td>13,536</td>
</tr>
<tr>
<td>TOTAL COSTS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>$121,308</td>
<td>$137,932</td>
</tr>
</tbody>
</table>

**NOTES:**

1. N.W.T. average cost per prescription not available however likely follows Alberta trends.
2. Estimate of 10% actual drug cost inflation.
3. Estimate of $3.95 dispensing fee used while actual to be negotiated.
4. Estimate typical of other provincial experiences. Estimate of one prescription per month per person.
5. Average cost of $9.43 involves lower costing drugs across spectrum when elderly typically require the higher costing drugs. Estimate is 8% increase in costs between 1979-80 to 1980-81.

**SOURCE:** Department of Health, G.N.W.T. estimate, June, 1977
handles a small number of claims for Pharmacare. A decision therefore was required as to whether to run the system on a manual basis or to set it up on electronic data processing.

A manual system costs less to set up and if it is not necessary to monitor the program extensively or to use the information for planning purposes, then the system is fundamentally sound. The electronic data processing or computing system requires a more extensive and elaborate set up but costs less to operate and gives far greater capabilities for future expansion and collation of information. The decision the Territories was made to introduce electronic data processing in order to have control of the system, a capability of future expansion and flexibility in combining the information available.

Data processing is accomplished through an on-line interactive system terminal linked to a computer at a central government location. The system does a pre-audit as claims are entered. The volume is handled by one person whose volume could double or triple without making it necessary to increase staff. Information is immediate for assessment and recalling claims. There is a maximum of 24 hours for standard turn-around report documents. Report information is up to the date of the report request. There is no time lag in reports or payments.

8. Control of Program Quality

One of the essential features of public programs is control.
There are essentially two options; no control and control through review. Some provinces such as British Columbia and Alberta turn review over to the Pharmaceutical Society and pay them a fee per prescription to assess and discipline problem pharmacists. There are few private pharmacies and therefore this approach for review is not practical in the Northwest Territories. Review and discipline has become a function of the Northwest Territories Formulary Advisory Committee, a Committee whose primary function is maintaining the master list of drugs that are termed a benefit under the program. The review lacks teeth in legislation, but can discipline a pharmacist by cancellation of his contract with the Program or by asking for an independent review by a provincial association. If the action of the pharmacist is negligent or fraudulent, then there are provisions through the courts to proceed further.

**Eight decision features**

The eight major decisions set the framework on which the Program was to be built. Information regarding the various options had come about as a result of the literature review and comparative review of existing provincial Pharmacare programs. It also was necessary to build upon some of the features of the previous three Northwest Territories programs and the planning therefore could also be classified as incremental.

Once the framework was set, it provided the broad specifi-
There are essentially two options; no control and control through review.

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Once the framework was set, it provided the broad specifi-
cations for design by the computer programmers. As the design progressed changes of a smaller nature were constantly made to achieve a workable product.

Design

The procedure used in Design followed a systematic approach known as PRIDE (PRofitable Information by DEsign). This type of approach attempts to bridge the credibility and communication gap that arises between the user and the designers during systems design. It proposes specific thoughtful documentation to eliminate the trial and error methods. While the detailed planning here is concerned with Pharmacare, the approach is applicable to all projects and all projects pass through the same phases of design but the order of these phases is logical and predictable.

Phases

This report will not deal with all the finite details, rather, it will outline the major features and give some details about them.

The design was broken into nine phases, of which seven are required to put the system into operation, the phases are:

2. System Design.
Phase 1 - System Study and Evaluation

This phase involved the development of the scope of the project by setting up the boundaries. The scope was the design, development and implementation of a Pharmacare program for eligible Northwest Territories' residents which encompassed the existing programs plus the addition of the new senior citizens' program. Included in the scope were details of population to be served, users, providers and their interaction with other agencies and individuals. Phase 1 also included defining the requirements of the users on such matters as confidentiality and information reports.

The program scope was then defined in terms of function. The four major functions are:

1. Registration of valid pharmacists, hospitals and nursing stations authorized to dispense drugs to residents of the Northwest Territories: eligible Northwest Territories resident -
Indians and Inuit, indigent, 12 supplementary illnesses, and age 65 years and older.

2. Processing and Reimbursement of valid claims submitted for drugs dispensed to eligible Northwest Territories residents.

3. Analysis of drugs dispensed to Northwest Territories residents under each of the programs. Patient histories include these drugs dispensed under the health programs and provide for integration with existing patient histories accumulated under Medicare and the Territorial Hospital Insurance Services.

4. Administrative and financial procedures within the Government of the Northwest Territories to ensure accuracy and auditability of the Pharmacare program.

5. Statistical and management reports to facilitate management and control of the Pharmacare program.

The end of the phase resulted in a systems approach to the project.

Phase 2 - System Design

This phase defines the systems approach into subsystems and prepared systems flow charts and logic and data management descriptions. Figure 1 shows a broad overview of the component system.
From a simplistic view there are master files which contain information against which claims are assessed. The information in the master files must be constantly updated. (Patient Registration, Formulary, Drug Prices and Dispensers' Registration). These files are also linked to print subsystems so that hard copies of any of the master files can be edited or printed automatically from the computer in the format to be distributed to the public. The second major set of files revolves around the claim assessment area. If a claim is valid and passes the edits throughout it is accepted by the computer and held in the cumulative pay file that is activated once a week. If the claim is invalid for a certain set of edits, it is refused outright. But if the claim fails to pass only one or two lesser edits, it shunts it into a claim in-process file which is printed out daily. An assessment clerk reviews the in-process file and follows up on the corrective action required. The claim, once corrected, can be released back into the system and through to the pay file.

The third major set of records are statistical files. These files are set up on a data base system. Files are created when claims are accepted, as various portions of the information on the claim goes into various files which can then be recompiled into statistical reports or re-assembled in any combination thereof. These files are provided as a result of statistical and management reports requested. These reports are outlined in detail in Appendix A.
The starting point for the system is the completion of claim page by the various dispensers. The claim page identifies the dispenser and the details of the prescription drug issued. The claim page is completed by all dispensers and submitted directly to the Department of Health.

Upon receipt by the Department of Health, pharmacy claims are subjected to a comprehensive series of edits and validations on a weekly frequency designed to determine eligibility of the patient and validity of the specific claim. All valid claims result in a cheque being issued to the dispenser with a supporting statement of account explaining the nature of the payments.

In addition to the primary claims edit and assessment subsystem, support subsystems have also been constructed, to:

1. Produce a series of management information and statistical reports.
2. Register eligible residents with the Pharmacare program.
3. Register pharmacists.
4. Create and update the formulary file.

Phase 3 - Subsystem Design

A design philosophy of flexibility and expandability has been followed to facilitate the subsequent expansion of the initial Pharmacare program. The key system files are designed to provide a comprehensive historical data base that is the basis for a unique statistical report or management enquiries.
The Pharmacare design fully addresses the concept of on-demand demand reporting and as such, utilizes a report generator system to satisfy this need.

The system approach and concepts that had been developed possess sufficient growth potential to permit the handling of far greater volumes of transactions with no significant increase in staff or computing power.

The Pharmacare system directly depends on the following key data base components:

3.1 Formulary Subsystem

A comprehensive file of all drugs listed in the Formulary and their related drug identification numbers (D.I.N.) issued by the Federal Government, designed to provide an index of valid drugs and a profile of individual D.I.N.'s in terms of cost and detail specifications.

Unit drug costs are not included in the N.W.T. Formulary that is distributed to the various pharmacists.

The Formulary file contains unit drug costs to be updated monthly (if necessary) and a percentage upcharge to the base drug unit cost that can be added to an individual pharmacy. Details of the Formulary file and its contents are in Table 7.
TABLE 7

CONTENTS OF PHARMACARE MASTER FILES

PATIENT REGISTRATION FILE CONTENTS

- as in Medicare
- Drug Reimbursement Eligibility Code (age, indigent, SHP)
- Drug Reimbursement Eligibility Dates (by eligibility code including repeats for past eligibility period)
- activity flag by Eligibility Code

REGISTERED PRACTITIONER MASTER FILE CONTENTS

- as in Medicare
- Dispensing Fee

DRUG HISTORY FILE CONTENTS

- Date of Receipt
- Current Patient Registration Number
- Previous Duplicate Patient Registration Number
- Claim Number
- Patient Birth Date
- Date of Dispensing
- Date of Payment
- Dispenser Number
- Prescriber Number
- Mode of Payment (full, partial, nil)
- Unit Cost (Formulary/Submitted/Approved)
- New or Repeat Prescription
- Substitute or no Sub. Prescription
- DIN Exception Status or Formulary
- Quantity (Submitted/Approved)
- Drug Cost (Submitted/Approved)
- Dispensing Fee
- Total Cost Paid
- ASHP Classification
- Active Ingredients
- Strength
- Route
- Form
- Manufacturer
- Narcotic Indicator
- Explanatory Codes
- Assessment Codes
- Adjustment Codes
- Age
- Duration Days (Before/After)
- Substituted (DIN/Unit Cost)
- Drug Reimbursement Eligibility Code
- Settlement Code
- Date of Processing
- Equivalent Group number

FORMULARY FILE CONTENTS

- Drug Identification Number
- Manufacturer code
- Drug Name
- Route of administration (e.g. oral)
- Form (tablet, capsule, etc.)
- American Society of Hospital Pharmacists Classifications
- Effective Date, Unit Price (repeated for past Price changes)
- Quantity Minimum/Maximum
- DIN Dispensing Fee (Standard, 0, or $1 for insulin – used for 100% drug coverage e.g., welfare)
- Exception Drug Status Indicator
- Narcotic Indicator
- Duration Limits
- Duration Quantity
- Active Ingredients (7 digit Canadian Drug Identification Code)
- Strengths X.XX (repeated once per active ingredient)
- Invalid Sex (M or F)
- Minimum and maximum age limits
- Explanatory Codes: Z6 - compounding
  Z9 - creams, ointments and solutions
- Substitute DIN from interchangeable drug group
- Substitute DIN Unit Price
- DIN not subject to audit indicator
- Supplemental Health Program Codes (repeated per SHP)
- Equivalent group number

N.W.T. Pharmacare
System Manual, 1979
3.2 Practitioner Subsystem

The subsystem contains a profile of all pharmacies that service eligible N.W.T. residents. The data base contains practitioner identification data and other specific data elements related to practitioner eligibility (both dispenser and prescribers). This information is based upon and integrated with the N.W.T. Medical Care Doctor Registration System.

The Pharmacare program provides for a variable dispensing fee for each registered pharmacy.

The Pharmacare program also incorporates a self-checking practitioner number while remaining compatible with the existing doctor registration file in Medicare. This self-checking registration number enables grouping of cheques and statements of account (e.g. pharmacists within a pharmacy).

The Pharmacare program provides for out of territory pharmacies to be registered for reimbursement, and for drug costs incurred out of territory to be reimbursed directly to eligible residents. Provision is made to reimburse out of territory pharmacies not registered with Pharmacare on an individual claim basis, (maximum or Formulary price).
3.3 Patient Registration Subsystem

Pharmacare relies on the patient registration file of the Medicare and Hospital Claims system. The current file is supplemented by an eligibility file to properly track which residents are eligible for what specific coverage, at what particular time interval. The primary objective of this file is to ensure that only eligible residents receive benefits of the Pharmacare program.

Pharmacare has the same residency requirements (effective arrival plus three months, expires departure plus three months) as the Medicare and Hospital programs. Claims will not be processed for dispensing dates outside of the eligibility periods.

3.4 Claims Edit and Assessment Subsystem

All drug claims that pass the Pharmacare eligibility and validity checks are approved for payment and added to a drug history file which provides a complete profile of completed services. It is the focus of all management and statistical reports. This subsystem includes the preparation of cheques and statements of account for the pharmacies, the prescription validation statement to be validated by the drug recipient, and the re-entry of the claims and process of assessment.

Administrative procedures for the pharmacies include the use of a claim page as a daily sheet and requests to submit
claims to the Department of Health on a bi-weekly or a monthly basis as their business volumes require.

There is a pharmacist's agreement and his statement of account indicates as well that the pharmacy is responsible for resubmitting claims rejected by the Pharmacare program.

Allowance was made later to include resident payments of a portion of the cost of each prescription. The options to be considered are patient payment of a percentage (0% - 100%) or a fixed dollar amount of each prescription up to a dollar limit for patient payments in each calendar year. When this limit (to be determined) is exceeded, the percentage of fixed dollar payment is changed for the remainder of the year for that patient.

The Pharmacare program will provide for voluntary substitution within equivalent drug groups for all dispensers unless the pharmacist indicates no substitution on the claim.

Provision is made for exception drug coverage for a specific patient, specific drug identification number, specific pharmacy, prescriber and time frame.

An automatic claims recycling system is provided to enable the Pharmacare Assessment Clerk to correct the data in error where possible and to respond to dispenser queries regarding the status of claims in process (under assessment).
The pharmacists are required to enter the prescribing physician's Medicare registration number on the Pharmacare claim page. Claims are rejected and returned to the pharmacy if a valid physician number is not submitted.

3.5 Management and Statistical Reporting Subsystem

The drug history file is analyzed on a monthly, quarterly and annual basis. These reports provide the basis for cost projections, reviewing a pharmacy's activities, a prescriber's activities or the Department's own internal activities. Examples of the extensive reports are in Appendix A.

3.6 Pharmacare Effectiveness Subsystem

This subsystem collects data from the weekly patient registration and claims edit and assessment subsystems and on a monthly basis will produce Pharmacare effectiveness reports. Examples are found in Appendix A.

These reports detail the prescribing habits by physicians, the dispensing habits by pharmacies and nursing stations, the utilization by patient and community and costs by patient, community, region and the total Northwest Territories.

These reports then provide a method of checking for drug quantities dispensed in the nursing stations which was not possible before.

The reports also permit an analysis of drug usage by drug that details the quantity and community where the drug is
being used. This is to enable monitoring of prescribing habits to guard against the development of drug resistant strains of bacteria.

3.7 Prescription Validation

This subsystem collects data from the patient files and produces reports for distribution to patients to have them validate the drug, date received, dispenser and location. It also acts as a method of public information.

Pharmacare System Logic

The Pharmacare System is made up of five subsystems, namely:

- 28-01 Formulary Print
- 28-02 Master File Maintenance
- 28-03 Edit and Assess Claims
- 28-04 Payments
- 28-05 Management Reports

These subsystems are interrelated through a common Data Base consisting of master files, namely:

- FD28010 DIN Formulary
- FD28020 Patient Eligibility
- FD28030 Supplementary Programs
- FD28040 Drug History
- FD28050 Performance Stats
- FD28213 Batch Imbalance Recycle
- FD28214 Claims-In-Process Recycle
- FD28370 Formulary Print
- FD24003 Patient Registration
- FD24004 Doctor (Dispenser) Registration
- FD28035 Dispenser Fee
- FD28310 Refused Claims
- FD28360 Valid Claims

The subsystems are designed in a data base mode that permits the addition of new programs, files or data in a modular fashion.
This means that a system change does not require the rewriting of the system each time. Appendix B provides an additional source of information on the subsystem.

PHASE 4 - PRODUCTION OF PROCEDURAL MANUALS

The distinction is made between policy and procedure. Since much of the work will be undertaken by people who are not expected to interpret policy; strict, simple, clear procedures must be defined in a step-by-step manner. This section of the project dealt with a step-by-step production of procedure manuals in which there was no room for policy discretion. Areas of policy discretion are handled by another branch of the Department of Health. The production of the procedural manuals for prescribers and dispensers maintains boundaries on the judgment expected by the people doing the assessment and provides assessment on a standard and uniform basis. It also documents the steps of the claims through the system and thereby enables people to trace particular claims which appear lost.

PHASE 5 - THE COMPUTER DESIGN AND PROGRAMMING PHASE

Once the users requirements have been defined; the parameters have been defined; the constraints on the system have been defined and the hardware has been defined, the actual programming or establishing of the system is then put into place on computer. This then has the effect of strict technical guidelines much as are evident in architectural and engineering fields.
**PHASE 6 - COMPUTER TEST**

Phase 6 is a test phase of the computer detail and the programs designed in Phase 5. This test is to see that each individual functioning step is operating.

**PHASE 7 - SYSTEM TEST**

Phase 7 is an over-all system test of the whole system which includes manuals, procedures, documents, paper flow, storage and public information. A step-by-step system test is conducted over a period of time before documents are actually signed off. The system includes a procedure at the end of each phase that the user and the designer must sit down, read the documents, know that they have both understood them and sign them off as being understood and acceptable. Phase 7 is the formal sign-off of the system and acknowledges acceptance of the system.

**PHASE 8 - ENHANCEMENTS**

Phase 8 deals with enhancements identified as necessary for the project after the system has been structured into design. These enhancements are then incorporated in future production and program changes.

**PHASE 9 - SYSTEM EVALUATION**

Phase 9 deals with a system evaluation. It is this phase of the program in which an evaluation as to whether the program design has met the objective of the system.
The system design ultimately takes its structure from the values of the Government. The values are translated into objectives and the objectives stated in terms of functional decisions. From each functional decision, various subsystems are designed to integrate into one comprehensive system. The Pharmacare program of the Northwest Territories is unique in that it uses a claim in process cycle. It as well is established on a data based system that allows for maximum flexibility when compiling information for audits, controls or other selective reports.

**IMPLEMENTATION**

With the introduction of the program the government felt it had met its political commitment of offering a relief from the cost of pharmaceuticals to senior citizens and at the same time, consolidated and rationalized a government service.

The bureaucracy was pleased having met its objective of administrative simplicity with what was felt to be sufficient control. The extent of the information and ease of retrieval of various combinations made it a much simpler task to account to the public. The presence of the Formulary Advisory Committee linked the professionals of the Northwest Territories to the program and offered greater credibility to actions taken.

The service deliverers now had for the first time definitive
guidelines on acceptable and non-acceptable benefits, a standard pricing format, a standard submission format, only one agency to deal with and a much superior turnaround time for the payment of their invoices. Detailed administrative manuals were prepared for prescribers, dispensers and nursing stations and hospitals with instructions as to all phases of the operation and their role in it. A systematic reporting procedure for the nursing stations, already in place, now had boundaries as a result of the creation of the nursing stations and lay dispensers' formularies. This enabled the proper ordering of drugs which then eased transportation problems. The control available enabled the monitoring of dispensing habits in the nursing stations and lay dispensers area.

Consumers were then advised of the program and the procedures required, if any, to ensure they were on the beneficiary listings. They were also advised of the presence of a Formulary Advisory Committee made up of three physicians, two pharmacists, and chaired by the Department of Health to whom requests for additions to the benefit listing could be made. This satisfied the need for input external to the bureaucracy.

Contacts were linked with wholesale supply houses to maintain current price listings. The Department linked itself to the Drug Quality and Assessment Services of the Federal Department of Health and Welfare. It also linked itself to the Saskatchewan Formulary Secretariat to receive advice on their additions and
deletions.

Information dissemination and linkage became the themes for the first few months of the program.

**SUMMARY**

This Chapter has outlined the planning and design procedures undertaken to bring the program on stream. It has followed the progression from a comparative review of existing plans (Chapter 2) to the statement of the three objectives and eight broad policy decisions which provided the basic structure for design.

The design followed a prescribed methodology of nine phases, seven of which were required prior to implementation. It involved the establishing of committees, project teams and detailed direction of administrative and computing requirements. The design detail involved structuring the system to be processed on a Hewlett Packard 3000 Computing System with minimal manual assessment or filing.

The program design satisfied the objectives of politicians, professionals and the public. It required extensive documentation including the construction of a Formulary and administration manuals for assessment, prescribing and dispensing. But the key component of the design was its flexibility. The design permits additions, deletions and changes to programs, even an allowance for a patient co-payment system in the future without difficulty.
It was designed on time, within budget and with a high degree of user satisfaction.
CHAPTER 4

EVALUATION AND RECOMMENDATIONS

System design is always subject to constraint. It labours under the constraint of policy decisions, computer hardware, manpower, expense, information and knowledge. The greatest mechanism of self-defence for this system therefore is flexibility and resiliency. Flexibility in order to permit the system to adapt to changes. Resiliency so that the removal of one part does not destroy the whole.

This Chapter reviews the constraints placed on planning the system, and where they have kept the plan from meeting its objectives to date. It concludes with recommendations for future expansion of the program.

The system must be evaluated according to its objectives. The main objectives, as stated in Chapter 3 were:

1. Effectiveness: the rational use of drugs to achieve and maintain the best possible health.
2. Efficiency: the cost of the program must be kept under control and to the lowest reasonable level.
3. Ideological: the program should benefit those with the greatest drug costs and the least financial ability to pay.
**Effectiveness**

"The rational use of drugs to achieve and maintain the best possible health."

The program attempted to meet the objective of effectiveness through the use of a formulary, voluntary substitution and the assessment rules on duration limits. In addition, there is a series of reports that permit the program to check for prescribing, dispensing and utilization abnormalities.

The Formulary Advisory Committee distributes bulletins on new drugs or drugs removed from the market. These bulletins serve as combined assessments and information on prescribing habits. The review function of the committee has not been necessary to date but is capable of reviewing bad prescribing habits. The fact that physicians may request a drug on exception status similar to Saskatchewan, puts their prescribing habits automatically before the committee and over the long term, should have an influence. Confirmation of the achievement of this objective will not be known for some time.

**Efficiency**

"The cost of the program must be kept under control and to the lowest reasonable level."

The program by its very construction has achieved a large degree of administrative efficiency. It has solved many, if not all, of the administrative problems of the three separate systems.
identified in Chapter 2. The system can be handled by one central agency. The edits and assessments are programmed into the computer so that checks are made on every aspect of the invoice. The assessment rules are defined. Rates are known and programmed in. The turnaround time from receipt of invoice to date of payment is less than one month but still within good cost management principles. Patient eligibility is recorded and checked by computer against each claim. Methods of analyzing prescribing, dispensing and utilization are in existence.

The least efficient aspect of the system is the Formulary maintenance. It is a heavy administrative workload. The Committee must rely upon research from Ottawa, the Ontario Government and the Saskatchewan Government. It means revisions to the formulary on a regular basis. The Formulary Committee does not have legislation to support it and the legal status of its decision to include or exclude a drug is uncertain. Legislation will be drafted, however, but until that time, the situation is unclear. In conclusion, though, its merits leading toward more rational prescribing, far outweigh the heavy administrative burden.

The existence of the formulary for nursing stations has permitted better scheduling of drug administration and eased the logistic problem of distribution previously in existence. The centralization of one body negotiating the rates and dispensing fees for all three agencies removes the possibility of playing one
agency against another.

**Ideological**

"The program should benefit especially those with the greatest drug costs and the least financial ability to pay those costs."

The program has met the objective of the transfer of wealth to another specific group in society, residents sixty-five years of age and over. It did not, nor was it the mandate of the project to do so, to resolve the problem of double standard that exists due to funding agencies. All Treaty Indian and Inuit receive all prescription drugs in the Formulary as a free benefit. "Other" status people must pay unless they are Indigent, or over sixty-five years of age or have one of the twelve specific illnesses.

On the basis of the agreed objectives and the administrative problems to be solved the project was an unqualified success. It is functional, efficient, simplistic and is received well by the public and the professionals.

**Extension of Principles**

The planning method and the final system design is such that the principles can be extended to other jurisdictions and even other fields of insured benefits.

Other jurisdictions of sizes up to 500,000 would be able
to incorporate the system as is with the confirmation of one item, that being the price of the drug ingredients. Once above the line of 500,000 it would be necessary to modify the data entry to receive submissions from computer tapes or employ a large number of keypunch operators. The system is designed such that any jurisdiction could use it once they have identified the beneficiaries.

While the application of the system in this instance was a Pharmacare program, it could well have been a denticare or medical care program. The underlying principle is the quantification and numerical definition of a procedure. Using the example of denticare, one would only have to define each procedure, then code it and price it. The codes and prices and relevant assessment rules could be entered in a matter of hours and the system operational.

Fundamental principles may also be applied elsewhere. The claim in-process cycle was applied to the Medical Care, Hospital Care and Public Health Information as part of the new Health Information System designed by the Department of Health in 1979. It is being applied to a computerized system for recording court cases and their completion. The use of a data base system has been applied to the Health Information System of the Department of Health as well but is equally viable for any system that must store a lot of data, however, only require bits and pieces when retrieving. For example, a student record system or a rental
accommodation system.

The Pharmacare project benefited not only the Department of Health but also the whole health field in Canada because from that system were transferred the principles that make the new Northwest Territories Health Information System (implemented April 1, 1980) the most comprehensive and integrated in Canada.
ENDNOTES

1 Canada, Royal Commission on Health Services, Vol. 1, Justice Emmett Hall, Chairman (Ottawa: Queen's Printer, 1964), pp. 41 - 45.


4 Personal interview with Peter Ruderman, July 15, 1980.


6 Lang, p. 13.

7 Lang, p. 129.

8 Canada House of Commons, Special Committee on Drug Costs and Drug Prices by Harry C. Harley (Ottawa: Queen's Printer 1967) p. 9.

9 Canada House of Commons, p. 51.

10 Personal interview with Peter Ruderman, July 15, 1980.

11 Lang, pp. 25 - 27.


15 Canada, Royal Commission on Health Services, p.


23 Carl E. Taylor, "Stages in the Planning Process"

**Health Planning Qualitative Aspects and Quantitative Techniques**

24 William A. Reinke "Overview of the Planning Process"


27 Lang, pp. 19 - 52.


34 Northwest Territories Act, Revised Ordinances of the Northwest Territories, (Ottawa: Queen’s Printer, 1974) Section 2, a and b.


36 Gerein, p. 41.


38 Gerein, p. 20.


40 Gerein, p. 45.

41 Gerein, p. 45.

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45 Muller, p. 158.


47 Correspondence, Minister of Human Resources to all eligible residents, October 15, 1973.


57 Saskatchewan, Formulary, p. ix.

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63 Ontario, Drug Benefit Formulary, p.v.

64 Ontario, Drug Benefits, p. 11.

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Bibliography


## APPENDIX A

### REPORTS SEQUENCED BY RECIPIENT AND FUNCTIONAL AREA

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Claims Assessment Clerk
- Registration - Patient Eligibility Error and Audit List
  - DIN Formulary Error and Audit List
- Processing - Batch Imbalance Update Report
  - Batch Imbalance Error Recycle
  - Claims In Process Update Report
  - Claims In Process Error Recycle
  - Supplemental Health Program Error and Audit List
  - Statement of Account
  - Detailed Patient History
- Analysis - Prescription Validation Statement

Department of Finance
- Processing - Cheque Register
REPORT NAME: Prescription Validation Statement

PURPOSE: To provide Territorial residents and the Department of Health with a method to validate type and quantity of drugs dispensed.

INFORMATION REQUIREMENTS:
A statement will be produced which would be forwarded to the individual drug recipient for review, correction if necessary and return to the Department of Health, if corrected. This report would include:

- amount reimbursed on behalf of recipient
- patient name and address
- dispensing date
- name of drug dispensed
- quantity dispensed
- name of prescriber
- name of pharmacy
- prescription validation statement number

DISTRIBUTION: To the patient

FREQUENCY: Quarterly

REMARKS: Copy to the Department of Health, Pharmacare Claims Assessment Clerk.
REPORT NAME: Formulary

PURPOSE: To provide physicians, pharmacists, hospitals and nursing stations with information regarding drugs covered by the Pharmacare Program.

INFORMATION REQUIREMENTS:

A Formulary will be produced including the following information:

- therapeutic classification number and name (includes narcotic and controlled drug indicators)
- drug identification number
- drug generic name
- drug strength and dosage
- interchangeable drug group indicator
- active ingredient names
- strengths of active ingredients
- drug brand name
- manufacturer identification
- date of revision

DISTRIBUTION: All pharmacists, hospitals, nursing stations, dentists and physicians registered with Pharmacare.

FREQUENCY: On demand

REMARKS: Format will be a computer produced report, photo-reduced to 8 1/2 X 11 and distributed in a binder with replaceable pages.
REPORT NAME: Drug Cost Validation

PURPOSE: To reduce total drug costs by identifying dispensers substantially above average costs.

INFORMATION REQUIREMENTS:
A report would be prepared by pharmacy listing all DIN's whose average cost per unit dispensed by this particular pharmacy was substantially higher than average costs per unit across all pharmacists. (Drugs dispensed by Hospitals and Nursing Stations will not be included in calculation of averages.)

The pharmacist will be requested to validate his acquisition costs for those DIN's selected, by submitting copies of his purchasing invoices to the Department of Health.

The report would list:
- pharmacy name, address, number
- DIN

DISTRIBUTION: To the Pharmacy selected

FREQUENCY: Quarterly

REMARKS: Copy to the Department of Health
REPORT NAME: Statement of Account and Cheques

PURPOSE: To reimburse drug dispensers for drug costs and dispensing fees covered by the Pharmacare Plan, and to reimburse eligible Territorial residents for eligible drugs purchased directly by them.

INFORMATION REQUIREMENTS:

A payment advice is produced for any claims submitted to Pharmacare. For claims resulting in payment of amount claimed, partial payment or all payment, the following information is prepared:

- dispenser number
- claim number
- date of dispensing
- prescription number
- patient registration number
- drug identification number
- unit cost
- quantity
- dispensing fee paid
- total cost paid
- average days duration (dispensed to receipt to paid)

For claims which cannot be processed by Pharmacare due to errors in submission, the above information is printed as completely as possible, with information entered in error highlighted with explanations for possible re-submission by the pharmacist.

For claims which are undergoing manual assessment and have been neither rejected nor approved, Pharmacare, the claim number and assessment reason are listed.

This report will enable the pharmacists to easily reconcile claims submitted to Pharmacare and to ensure he is receiving complete and accurate reimbursement for drugs dispensed.

DISTRIBUTION: To originator of the claim

FREQUENCY: Weekly
REMARKS: For a nil payment, cheque printing is suppressed and a payment advice provides the details of claims processed.
REPORT NAME: Pharmacare Effectiveness

PURPOSE: To provide the senior management of the Department of Health with information measuring the volume of claims processed, and measures of system's effectiveness.

INFORMATION REQUIREMENTS:
A report would be produced listing:
- total number of claims received, rejected, approved for payment
- average duration from date of dispensing, to receipt
- average duration from receipt to date of payment
- number of Territorial residents registered with the Department of Health
  - number and percentage eligible for drug reimbursement via each Supplemental Health Program or age
  - percentage of above eligible residents submitting drug claims this month, quarter and YTD.
- percentage reject rate by explanatory code.

DISTRIBUTION: Director, Department of Health

FREQUENCY: Monthly

REMARKS:
REPORT NAME: Prescription Frequency Profile

PURPOSE: To provide the information required to identify potential areas of excessive drug use.

INFORMATION REQUIREMENTS:

A report would be produced listing all patients receiving more than four prescriptions in either of the last two quarters and this report would include:

- date dispensed
- patient name and registration number, settlement code
- prescription number
- new or repeat prescription
- prescriber number
- pharmacy number
- DIN
- quantity dispensed
- ASHP classification
- active ingredient, strength
- duration days
- drug reimbursement eligibility code

DISTRIBUTION: Chief, Health Insurance Branch, Department of Health

FREQUENCY: Quarterly

REMARKS: Specific Supplementary Health Programs are not subject to prescription frequency analysis.
REPORT NAME: Movement Profile

PURPOSE: To identify Territorial Resident movement patterns.

INFORMATION REQUIREMENTS:
A report would be produced showing:

(a) - dispenser name, number
    - number of patients prescribed to (or prescriptions)
      by settlement code

(a) - settlement code, description
    - number of prescriptions by dispenser

DISTRIBUTION: Chief, Health Insurance Branch, Department of Health

FREQUENCY: Quarterly

REMARKS:
REPORT NAME: Residents eligible for Pharmacare

PURPOSE: To list which Territorial residents are eligible for reimbursement of drugs under each of the Supplemental Health Programs.

INFORMATION REQUIREMENTS:
A listing will be produced including the following information:

- registration number
- settlement code
- birth date
- effective date
- expiry date
- sex
- drug reimbursement eligibility code (senior citizen, supplemental health program, other)

DISTRIBUTION: Department of Health

FREQUENCY: On demand

REMARKS:
REPORT NAME: Dispenser Profile

PURPOSE: To provide management of the Department of Health with the information required to manage and control the costs and methods of dispensing drugs under the Pharmacare Program.

INFORMATION REQUIREMENTS:

A report is produced to monitor patterns of drugs dispensed (volumes and costs) for each dispenser (pharmacist, nursing station, hospital, all pharmacists).

This report will show information for the month, quarter and year-to-date for the current year and past year, and would include the following:

- number of prescriptions
- number of prescriptions in interchangeable groups
- number of no substitute prescriptions
- percentage no substitute prescription of interchangeable prescriptions.
- drug costs
- dispensing fees
- total amount paid
- average cost per prescription

DISTRIBUTION: To Chief, Health Insurance Branch, Department of Health

FREQUENCY: Monthly

REMARKS: A detailed report of all prescriptions dispensed by a particular pharmacist or station could be produced on demand.
REPORT NAME: Prescriber Profile

PURPOSE: To provide management of the Department of Health with the information required to manage and control the costs and methods of prescribing drugs under the Pharmacare Program.

INFORMATION REQUIREMENTS:
A report is produced to monitor patterns of drugs prescribed by physicians registered with the Department of Health Pharmacare Program.

This report will show information for current month, quarter, and year-to-date, and would include:
- number of prescriptions
- percent new
- number of prescriptions in interchangeable groups
- percentage of no substitute prescriptions

DISTRIBUTION: To Chief, Health Insurance Branch, Department of Health

FREQUENCY: Monthly

REMARKS: A detailed listing of all drugs prescribed by a physician could be produced on demand.
REPORT NAME: Drug Usage Profile

PURPOSE: To provide management of the Department of Health with information required to manage and control the costs and types of drugs covered by the Pharmacare Program.

INFORMATION REQUIREMENTS:

A report is produced to monitor volumes and costs resulting from drug usage by Territorial residents.

Information will be summarized by Drug Identification Number, as well as Therapeutic Classification, and would include:

- number of prescriptions
- percentage of new prescriptions
- percentage of no-substitute prescriptions
- total drug cost paid
- average cost per prescription
- number of units dispensed
- average cost per unit dispensed

DISTRIBUTION: To Chief, Health Insurance Branch, Department of Health

FREQUENCY: Monthly

REMARKS: A detailed listing of all prescriptions by prescriber for a drug or a therapeutic classification could be produced on demand, including reports on drugs dispensed as part of each of the Supplemental Health Programs or Exception Drug Status.
REPORT NAME: Demographic Analysis

PURPOSE: To provide management of the Department of Health with the information required to budget and monitor costs associated with drugs dispensed under the Pharmacare Program in each settlement and region. This report would also permit analysis of drug usage patterns by therapeutic subclassification within settlements and regions.

INFORMATION REQUIREMENTS:

A report is produced to monitor costs and volumes of drugs dispensed by settlement and region. The report will show information for the month, quarter, and year to date, and would include:
- region number
- settlement number
- therapeutic sub-classification
- number of prescriptions
- drug cost
- dispensing fee
- total cost paid

DISTRIBUTION: To Chief, Health Insurance Branch, Department of Health

FREQUENCY: Monthly

REMARKS: A listing of drugs dispensed by Drug Identification Number could be produced for each settlement or region on demand
REPORT NAME: Re-Submission of Rejects

PURPOSE: To provide the Pharmacare Assessment Clerk with the information required to manually assess and correct the claims questioned by the Pharmacare System.

INFORMATION REQUIREMENTS:

For each claim questioned by the Pharmacare System, a report will be produced with the following information:

- pharmacist number
- claim number
- date of dispensing
- prescription number
- registration number
- prescriber number
- quantity claimed
- drug identification number
- unit cost
- dispensing fee claimed
- total cost claimed
- explanation codes detailing reasons for assessment

DISTRIBUTION: Pharmacare Claims Assessment Clerk, Department of Health

FREQUENCY: On a run basis

REMARKS: A detailed patient history of claims processed can be produced on demand if required in the assessment process. This file will contain prescriptions flagged as 101-110% of Formulary File Cost for a prescription.
APPENDIX B

PHARMACARE-SYSTEM LOGIC NARRATIVE

The Pharmacare System is made up of five sub systems, namely:

- 28-01 Formulary Print
- 28-02 Master File Maintenance
- 28-03 Edit and Assess Claims
- 28-04 Payments
- 28-05 Management Reports

These sub systems are interrelated through a common Data Base consisting of master files, namely:

- FD28010 DIN Formulary
- FD28020 Patient Eligibility
- FD28030 Supplementary Programs
- FD28040 Drug History
- FD28050 Performance Stats
- FD28213 Batch Imbalance Recycle
- FD28214 Claims-In-Process Recycle
- FD28370 Formulary Print
- FD24003 Patient Registration
- FD24004 Doctor (Dispenser) Registration
- FD28035 Dispenser Fee
- FD28310 Refused Claims
- FD28360 Valid Claims

DIN Formulary contains the pertinent information about the DIN's (Drug Identification Numbers) that are eligible for reimbursement as established by the Department of Health Formulary Advisory Committee, for example, the accepted unit cost of the DIN, restrictions of dispensing, the supplementary programs for which reimbursement is eligible, etc.
Patient Eligibility - contains the patient registration numbers of those persons who have been certified eligible for drug reimbursement and the program(s) and effective dates of eligibility against which reimbursement amounts are validated.

Supplementary Programs - contains the patient registration and effective dates of eligibility during which drug reimbursement is valid.

Drug History - contains the History data with respect to patient registration numbers, dates, etc. for all claims validated and paid in the system.

Performance Stats - contains system performance statistics by week or day of all claims processed including refusals for management report Pharmacare Performance Report (OD28422).

Batch Imbalance Recycle - contains the claims in batches as they were keyed onto the file which did not batch balance. This allows for correction of the imbalance condition without having to rekey the entire batch.

Claims-In-Process Recycle - contains the claims which did not pass the edit for reasons that are probable keying or transcription errors or are potential duplicates with respect to the History File. This allows for correcting an
individual claim without having to refuse it and re-enter it.

Refused Claims - contains all claims to be refused on the Statement of Account.

Valid Claims - contains all claims validated and to be reimbursed on the Statement of Account.

Formulary Print - contains the printable Formulary, a word-processing file, which is updated and printed for reference purposes for prescribers and dispensers.

Patient Registration - contains all registered residents of the N.W.T. This file is reference only and is maintained in the MEDICARE System.

Doctor (Dispenser) - contains all the registered doctors, dentists, nursing stations, and dispensers for the N.W.T. This file is reference only and is maintained in the MEDICARE System.

Dispenser Fee File - contains details on dispensing fee for each pharmacy as a fixed foliar amount per prescription, (eg. $3.95), a material cost upgrade percentage, (eg. additional 10% for Inuvik), or a percentage, (eg. for OTC's).
Due to the confidential nature of several reports, the data will be printed and entered at the Department of Health by authorized personnel only via a terminal.

The Inputs to the system consist of:

- ID28001 DIN Formulary ACD (Add, Change, Delete)
- ID28002 Patient Eligibility ACD
- ID28003 Supplementary Program ACD
- ID28004 Dispenser Fee ACD
- ID28111 New Claims Batch Header
- ID28112 New Claims Document
- ID28113 Batch Imbalance ACD
- ID28114 Claims-In-Process Changes
- ID28370 Formulary Print ACD
- ID28410 Cut Off Date
- ID28500 Parameter List

The Pharmacare Program will utilize the current Medicare registration procedures for Territorial residents, doctors, hospitals and nursing stations, as well as additional prescribers (dentists). Pharmacare will provide for registration of drug dispensers (pharmacists, nursing stations and hospitals). An administrative procedure will enable the Department of Health Pharmacare Assessment Clerk to register (ID28004) new dispensers via Pharmacare (including individual dispensing fee - initial standard of $3.95 - , or a percentage upcharge allowable on drug material costs for OTC drugs dispensed) and to utilize the current Medicare registration procedures for the new prescribers (dentists). In addition the Pharmacare Assessment Clerk can add Drugs to the Formulary file via ID28001 based upon instructions from the Formulary Advisory Committee and the Director of the Department of Health. Supplementary Programs
can be controlled via ID28003 and the Patient Eligibility for the SHP via ID28002 as detailed in the Master File Maintenance Sub System 02. The DIN Formulary File ACD (ID28001) will also cause the preparation of the Formulary Print ACD (ID28370) which will enable Sub System 01 Formulary Print to produce new Formulary pages for distribution to dispensers and prescribers.

Dispensers will complete the New Claims Document (ID28112) and forward them for reimbursement to the Department of Health where the Pharmacare Assessment Clerk creates the New Claims Batch Header (ID28111) and inputs the new transactions into the system via a display station. Sub System 03 Edit and Assess Claims will refuse claims (FD28310), authorize payment (FD28360), and hold questionable Claims-In-Process (File FD28214) for correction and re-entry via the Claims-In-Process changes form (ID28114).

The Pharmacare Assessment Clerk will activate Sub System 04 - Payments via creation of a Cut Off Date Input Document (ID28410) which will result in cheques to dispensers, Statements of Account to dispensers and the Department of Health, a cheque register report (OD28470) and tape (FD28470) to the Department of Finance.

At month end upon completion of the payments Sub System 04, the Department of Health will select a Parameter List (ID28500) which will cause the printing of selected
Management Reports in Sub System 05.
The DIN Formulary ACD (ID28001) which updates the DIN Formulary File (FD28010) in the Master File Maintenance Sub System will be used to trigger the creation of the Formulary Print ACD (ID28370) which is used to update the Formulary Print File (FD28370).

The output is the Formulary Binder of 8 1/2 X 11 pages (OD28350). Complete sets were prepared during June, 1979, and distributed to appropriate doctors, dentists, nursing stations and hospitals (for use as a prescriber) and to pharmacists, nursing stations and hospitals (for use as dispensers).

Subsequent updates to the Formulary binder will be prepared monthly on an individual page basis as required. These changed pages (indicating date of revision) would then be distributed to Formulary binder holders as replacement pages.
The purpose of this sub system is to maintain the currency of the various master files used by the PHARMACARE system.

Essentially three maintenance procedures for each master file are permissable, namely:

(i) adding a new record to the file being updated,

(ii) changing specific data elements of a specific record or the file being updated and,

(iii) deleting an existing record from the file being updated.

Note: A delete consists of terminating a record from being valid by date control as opposed to physically deleting the record from the file.

The files that are maintained in this sub system are:
(i) DIN Formulary File (FD28010),
(ii) Supplementary Program File (FD28030),
(iii) Patient Eligibility File (FD28020), and
(iv) Dispenser Fee File (D28035).

DIN Formulary File: contains the pertinent Information about all the DIN's (Drug Identification Numbers) that are eligible for reimbursement under the PHARMACARE Program.

Supplementary Program File: contains the programs; eg. Senior Citizens, Diabetes, etc., that are eligible for drug reimbursement.

Patient Eligibility File: contains the patient registration numbers of the patients who are eligible for reimbursement, the program(s) for which they are eligible and the time period for which the eligibility is valid.

Dispenser Fee File: contains information on the standard dispensing fee for each dispenser (initially all $3.95) and/or percentage upcharge allowed on OTC drugs as a prescription fee, and the percentage upcharge allowed on all drug acquisition costs (initially Inuvik only at +8%).

The inputs to the Master File Maintenance Sub System originate as follows:
DIN Formulary ACD (ID28001) prepared by the Assessment Clerk upon instructions from the Director of
Health, in turn based upon recommendations of the Formulary Advisory Committee.

Patient Eligibility ACD (ID28002) prepared by the Assessment Clerk to register individual residents for a Supplementary Health Program (other than Senior Citizens where Medicare date of birth enables eligibility) for a specific time period, or to register an individual for Exception Drug Status. Authorization is based upon physicians certification that the disease condition exists.

Supplementary Program ACD (ID28003) prepared by the Assessment Clerk to add change or delete SHP's upon instructions from the Director of Health.

Dispenser Fee ACD (ID28004) prepared by the Assessment Clerk to modify dispensing fees for each dispenser based upon instructions from the Director of Health.

Each of the above Input Documents is validated against the appropriate master files previously noted and Output Documents result to control the validity of the data. These outputs go to the Assessment Clerk:

OD28010  DIN Formulary Error and Audit
OD28020  Patient Eligibility Error and Audit
OD28030  Supplementary Program Error and Audit
OD28035  Dispenser Fee Error and Audit
The purpose of this sub system is to edit and assess claims submitted for reimbursement. The claims are created daily by the dispenser (ID28112) and batched regularly by the Assessment Clerk (ID28111) for input to the system and are detected and flagged with the appropriate error message(s). This allows the Assessment Clerk the opportunity to correct without resubmitting (re-keying) the entire record (OD28113, OD28114, OD28213, OD28214, and ID28113, ID28114).

The editing consists of comparing submitted data elements such as (1) prescriber no. to the Prescriber (Doctor) File (FD24004) for a match, (2) the DIN number to the DIN Formulary File (FD28010) for a match, (3) the patient registration no. to the Patient Registration Mstr (FD24003) for a match as well as to the Patient Eligibility File (FD24003) to ensure eligibility under a valid supplemental program and five standard numerical type date checks.

If the claim is edited clean in all cases it is then
assessed. Assessment consists primarily of verifying that it is not duplicated i.e. that this claim has not been entered and paid before. Two conditions constitute a duplicate (1) that within the same week the claim has been entered twice - determined by comparing to the Drug History File (FD28040) or (2) that the claim appears as suspect i.e. not character by character duplicates but similarities between it and a record on the Drug History File (FD28040) which might indicate fee splitting. The first condition causes refusal while the second condition causes the new claim to be put in the Process File (FD28214) for manual assessment.

In Process records can be "forced through" with valid force codes appended to the record or claim by the assessment clerk to override certain editing conditions which would otherwise cause refusal.

Output from this sub system is essentially two reports (1) Batch Imbalance Recycle (OD28213) and (2) Claims In-Process Recycle (OD28214) which act as control documents to facilitate error recycling.
The purpose of this sub system is to produce the Statement of Account (OD28300), Cheque Register (OD28470), Cheque Register Tape(s) (FD28470) and Cheques (OD28310).

All editing and assessing is completed and the temporary files that were created daily as a result of SS03 i.e. Refused Claims (FD28310), Valid Claims (FD28360) and the Claims-In-Process (FD28214) are merged to produce a consolidated Statement of Account detailing the status of claims for each dispenser.

At this step the Refused Claims File is purged or reinitialized to null-file status, the Valid Claims is printed as cheques, and cheque register, and a cheque register tape is created for the Department of Finance. Subsequently, the Valid Claims File is purged or reinitialized to null-file status, and the Claims-In-Process is retained for error recycling.

Prior to purging the Valid Claims File, the system could be expanded later to include printing summaries of
drug costs reimbursed for each Supplementary Health Program
for cost recovery purposes (e.g., Indian and Eskimo from the
Department of National Health and Welfare, Indigents from
Social Services etc.). These reports have not been included
as part of the current Pharmacare Program.
The Claims Edit and Assessment Sub System validates drug reimbursement claims and authorizes them for payment. These valid claims are then added to the patient Drug History File which will contain the last fifteen to twenty-seven months history of drugs dispensed to a particular patient. The patient Drug History File will be updated during each payment run (weekly). Each month, a copy of the current patient Drug History File will be taken (FD28040) and retained for subsequent entry to the Management Reporting Sub System 28-05.

The Department of Health will create a Parameter List (ID28500) which will control the selection and printing of the reports detailed below.

The Patient Drug History File will be sorted into the appropriate sequences, and the management reports produced as per the Illustrative Outputs attached in a subsequent section of this report.

The sorting and processing sequences are as defined in
the attached system flowcharts for Sub System 28-05. The parameter details for each report include the following:

**OD28401 - Prescription Frequency Profile** - provides for printing the details of prescriptions for any patient receiving more than N (variable, initial assumption is 4) prescriptions in a fiscal quarter year.

**OD28403 - Movement Profiles** - summarizes all prescriptions within a quarter year by settlement and dispenser, or by settlement and program.

**OD28407 - Dispenser Profiles** - if unusual dispensing patterns are detected as a result of the monthly Dispenser Profile (OD28407) summary statistics or another management report, a detailed dispenser listing (OD28409) can be requested by specifying dispenser number, and beginning and end dates.

**OD28411 - Prescriber Profiles** - If unusual prescribing patterns are detected as a result of the monthly Prescriber Profile (OD28411) summary statistics or another management report, a detailed prescriber profile (OD28413) can be requested by specifying prescriber number and a beginning and end date.
OD28415 - Drug Usage Profiles - a monthly Drug Usage Profile (OD28415) will be produced for selected prescribers, dispensers and eligibility codes. Details on prescriptions for specific prescribers, Supplementary Health Programs, or Dispensers can be requested (OD28417) as required.

OD28419 - Demographic Analysis - summary statistics on demographic drug costs (OD28419) are produced on a monthly basis by therapeutic classification. On demand a listing of prescription details by DIN for a specific settlement for a specific time period can be produced (OD28420).

OD28422 - Pharmacare Performance - information is gathered from a number of computer procedures into a performance statistics file (FD28050) which is input to the subject report on a monthly basis.

OD28424 - Drug Cost Validation - pharmacists whose average DIN unit costs exceed system averages by a specified percentage will be identified for audits of drug acquisition costs. This report (OD28424) requests copies of invoices to validate drug costs.

OD28405 - Pharmacare Eligibility - details patient eligibility
for each settlement for each SHP. This report will include special confidentiality procedures.

OD28426 - Prescription Validation Statement - requests drug recipients to validate the accuracy of recent drug claims processed by Pharmacare.

OD28428 - Patient History Detail - provides the Department of Health with prescription details for a specific resident. This report will include special confidentiality procedures.
Appendix C.

Diseases on federal list

Diarrhoea of the newborn, epidemic (009.1) Diarrhée épidémique du nouveau-né

Diphtheria (032) Diphtérie

Dysentery, bacillary (008.4) Dysentére bacillaire

Encephalitis, western equine (060.1) Encephalite occidentale

Food poisoning, bacterial – Intoxication alimentaire bactérienne

(a) Staphylococcal (015.0) A staphylococques
(b) Botulism (015.1) Botulisme

Hepatitis, infections including serum hepatitis – Hepatite infectieuse (y compris sérothérapie)

(a) Hepatitis, infective (070) Hepatite infectieuse
(b) Hepatitis, serum (099.2) Hepatite sérothérapeutique

Mumps (055) Mumps

Meningitis, acute, due to enterovirus – Meningite aigue due à virus entérovirus

(a) Enteroviral meningitis (095.0) Meningite entérovirale
(b) Not specified (095.9) Sans précision

Meningocecal infections (026) Infections a méningocoques

Rubella (German measles) (056) Rubéole

Salmonella infections, other – Autres infections à salmonelle

(a) With mention of food as vehicle (003.0) Avec mention de contage alimentaire
(b) Without mention of food as vehicle (003.9) Sans mention de contage alimentaire

Streptococcal sore throat and scarlet fever (034) Angine a streptocoques et tétanose

Tuberculosis (010-019) Tuberculose

Typhoid and paratyphoid fever – Fievre typhoide et paratyphoide

(a) Typhoid (001) Typhoïde
(b) Paratyphoid (002) Paratyphoïde

Whooping cough (033) Coqueluche

Veneral diseases – Maladies génitales

Genital infections – Infections génitales

Lymphogranuloma venereum (099.1) Lymphogranulome venereen

Other (099.9) Autres

Syphilis – Syphilis

Congenital (090) Congénitale

Acquired – Acquise

Early syphilis (syphilial, 091) Syphilis récente symptomatique

Primary (091.1) Primaire

Secondary (091.2) Secondaire

Other and unspecified (091.9) Autres et sans précision

Late syphilis (097) Syphilis tardive

Late syphilis – Syphilis tardive

Cardiovascular syphilis (093) Syphilis cardio-vasculaire

Syphilis of central nervous system (094) Syphilis neurologique

Other forms of late syphilis with symptoms (095) Autres formes de syphilis tardive, symptomatique

Other and unspecified (097.9) Autres et sans précision

Chancroid (099.0) Chancre mou

Lymphogranuloma venereum (099.1) Lymphogranuloma venereen

Gonococcal urethritis (099.2) Urethrite gonococcique

Rare diseases – Maladies rares

Amoebiasis (098.0) Amibien

Ascariasis (098.1) Ascaris

Brucellosis (099.1) Brucellose

Chagas disease (099.2) Chagas

Trichinosis (099.9) Trichinose

Tuberculosis (010-019) Tuberculose

Yellow fever (060.0) Fievre jaune

SOURCE: Publication #82-201
CHAPTER P-7

AN ORDINANCE RESPECTING PHARMACY

SHORT TITLE

1. This Ordinance may be cited as the Pharmacy Ordinance. R.O., c.77, s.1; 1964(1st), c.11, s.2.

INTERPRETATION

2. In this Ordinance (Definitions)

(a) "dentist" means a dentist under the Dental Profession Ordinance;

(b) "medical practitioner" means a medical practitioner under the Medical Profession Ordinance;

(c) "merchant" means a person licensed as a merchant under the Business Licence Ordinance or pursuant to a by-law of a municipality established under the Municipal Ordinance;

(d) "narcotic" means any substance included in the Schedule to the Narcotic Control Act (Canada) or anything that contains any substance included in that Schedule;

(e) "nurse" means a person who is registered under the law of any province to practise the profession of nursing;

(f) "pharmaceutical chemist" means a person who is entitled to practise the profession of pharmaceutical chemist under this Ordinance;

(g) "register" means the Pharmaceutical Chemists Register referred to in section 3;

(h) "veterinary surgeon" means a veterinary surgeon under the Veterinary Profession Ordinance. R.O., c.77, s.2; 1960(2nd), c.7, s.1; 1963(2nd), c.21, s.1; 1964(1st), c.11, s.3.

REGISTRATION AND LICENSING

3. The Commissioner shall keep a register called the Pharmaceutical Chemists Register, and shall enter therein the names, addresses and qualifications of all persons who are, pursuant to this Ordinance, entitled to be registered in the register and he may issue licences to such persons. R.O., c.77, s.3.
4. (1) A person who
(a) on the 12th day of December 1953, was entitled by law to
practise the profession of pharmaceutical chemist in the
Territories,
(b) produces to the Commissioner a certificate under the hand
of the proper authority that he has the right to practise the
profession of pharmaceutical chemist in any province, in the
United Kingdom or in any part of Her Majesty's dominions
and satisfies the Commissioner that he is the person named
in the certificate, and is a suitable person, or
(c) is a medical practitioner,

and who pays the fee required by this Ordinance is entitled to be
registered in the register.

(2) Every person who applies for registration in the register shall,
with his application for registration, pay the Commissioner a registra­
tion fee of fifty dollars. R.O.,c.77,s.4.

5. The Commissioner may issue a registration certificate in
Form A of Schedule E to a person who under section 4 is entitled to
be registered in the register and is so registered and the registration
certificate shall show that the person is registered. R.O.,c.77,s.5.

6. Every person who is registered in the register shall pay to the
Commissioner, at the time his name is entered in the register and
subsequently on or before the 31st day of March in each year, an
annual licence fee in the sum of ten dollars. R.O.,c.77,s.6.

7. No licence is valid unless
(a) the licence fee in respect of the year for which the licence
is issued has been paid, and
(b) the holder of the licence has been registered pursuant to
section 3. R.O.,c.77,s.7.

8. A licence expires on the 31st day of March next following the
day upon which it came into force. R.O.,c.77,s.8.

**TEMPORARY LICENCES**

9. (1) The Commissioner may grant a temporary licence to prac­
tise the profession of pharmaceutical chemist for a period specified by
the Commissioner not exceeding six months and upon such other
terms and conditions as the Commissioner may specify in the licence
to any person who
(a) produces to the Commissioner a certificate under the hand
of the proper authority that he has the right to practise the
profession of pharmaceutical chemist in any province of
Canada, England, Scotland, Northern Ireland, New Zea-
land, or Australia and satisfies the Commissioner that he is
the person named in the certificate, and is a suitable person;
and
(b) pays a fee of ten dollars.

(2) Notwithstanding anything in this Ordinance, a person who
holds a temporary licence issued pursuant to subsection (1) may
practise the profession of pharmaceutical chemist in the Territories as
though he were registered and licensed under this Ordinance subject
to the terms and conditions of the said temporary licence and subject
to this Ordinance. 1969(2nd),c.24,s.1.

PRACTICE OF PHARMACEUTICAL CHEMISTRY

10. Subject to section 18, no person is entitled to practise the
profession of pharmaceutical chemist nor to recover a fee, reward or
remuneration for medicines, materials or appliances provided by him
in practising the profession of pharmaceutical chemist unless he holds
a licence under this Ordinance at the time the medicines, materials or
appliances are provided. R.O.,c.77,s.9.

11. A person who holds a licence is entitled to practise the
profession of pharmaceutical chemist in the Territories and to bring
an action for the recovery of reasonable charges for any medicines,
materials or appliances supplied by him. R.O.,c.77,s.10.

OFFENCES AND PENALTIES

12. (1) A person who is not the holder of a licence and who
(a) publicly or privately for hire, gain or hope of reward prac-
tises the profession of a pharmaceutical chemist;
(b) appends to his name the title pharmaceutical chemist, dis-
ensing chemist, druggist, dispensing druggist, or apothe-
cary or any word indicative of any such title or uses any
substitution or abbreviation thereof;
(c) holds himself out in any way to be a duly qualified phar-
maceutical chemist; or
(d) assumes any title or description implying, or designed to
lead the public to believe, that he is duly qualified to practise
as a pharmaceutical chemist;

is guilty of an offence.

(2) A person who violates any provision of this Ordinance is
guilty of an offence, and liable on summary conviction to a fine not
Pharmacy

exceeding one hundred dollars or to imprisonment for a term not exceeding six months, or to both fine and imprisonment.

(3) Notwithstanding anything in this Ordinance, where a merchant is convicted of an offence under this Ordinance, the Commissioner may make an order prohibiting that merchant from selling a substance listed or described in Schedule C. R.O., c.77, s.11; 1960(2nd), c.7, s.2; 1963(2nd), c.21, s.2.

13. In the case of an offence under this Ordinance a complaint shall be made, or the information laid, within one year from the time when the matter of the complaint or information arose. R.O., c.77, s.12.

14. In a prosecution for an offence under this Ordinance the onus of proof that the person against whom the charge is laid is the holder of a licence is upon the person against whom the charge is laid. R.O., c.77, s.13.

INVESTIGATION AND REMOVAL

15. (1) Subject to subsection (2), the Commissioner shall remove from the register the name of a person registered therein who fails to comply with the provisions of this Ordinance with respect to licence fees and the licence issued to that person is invalid until such time as he is again registered in the register.

(2) Where reasons satisfactory to the Commissioner are advanced to him as to why the licence fee has not been paid at the required time or within the required period, the Commissioner may grant an extension of time for payment of fees before striking the name of a person off the register but he shall in no case grant an extension of time exceeding sixty days.

16. (1) The Commissioner may appoint two or more persons to act as a Board of Inquiry for the purpose of investigating any complaint made against a person practising as a pharmaceutical chemist with respect to an alleged contravention of this Ordinance or any complaint or malpractice or infamous, disgraceful or improper conduct on the part of a person practising as a pharmaceutical chemist.

(2) Without restricting the generality of the expression "improper conduct" a pharmaceutical chemist is guilty of improper conduct who
(a) is convicted of an offence against an Act of the Parliament of Canada or an Ordinance of the Territories relating to the sale of narcotics; or

(b) is shown to be addicted to the excessive use of intoxicating liquors or narcotics.

(3) A Board of Inquiry appointed pursuant to subsection (1) may make rules and regulations under which the inquiry is to be held and has power

(a) to summon and bring before it any person whose attendance it considers necessary to enable the Board properly to inquire into the matter complained of;

(b) to swear and examine all such persons under oath;

(c) to compel the production of documents; and

(d) to do all things necessary to provide a full and proper inquiry.

(4) A Board of Inquiry shall, after investigation of a complaint pursuant to this section, make a finding and shall immediately report its finding to the Commissioner.

(5) A majority of the members of a Board is a quorum and a finding by a majority of a Board upon any matter is final.

(6) Every person who

(a) fails, without valid excuse, to attend an inquiry as required under this section,

(b) fails to produce any document, book or paper in his possession or under his control as required under this section, or

(c) at any inquiry under this section

(i) refuses to be sworn or to affirm, or to declare, as the case may be, or

(ii) refuses to answer any proper question put to him by the Board of Inquiry,

is guilty of an offence. R.O.,c.77,s.15.

17. (1) Where a pharmaceutical chemist has, after due inquiry, been adjudged by a Board of Inquiry to have been guilty of a contravention of this Ordinance or of malpractice or infamous, disgraceful or improper conduct, the Commissioner shall strike his name off the register and suspend or cancel his licence to practise.

(2) A pharmaceutical chemist whose name has been struck off the register and whose licence to practise has been suspended or cancelled may be reinstated on the register, his licence renewed and his rights and privileges thereunder restored in such manner and upon such conditions as the Commissioner in his discretion may decide. R.O.,c.77,s.16.
18. Nothing in this Ordinance shall be deemed to prohibit or prevent

(a) a medical practitioner from exercising a privilege conferred by any Ordinance relating to the practice of medicine and surgery in the Territories;

(b) any person from supplying goods of any kind to a pharmaceutical chemist, medical practitioner, dentist or veterinary surgeon;

(c) a medical practitioner, dentist, veterinary surgeon or a nurse acting under the supervision or direction of a medical practitioner or dentist from supplying a patient with such medicines as he may require;

(d) an executor, administrator or trustee of the estate of a deceased pharmaceutical chemist from continuing the business of the deceased if the business is bona fide conducted by a pharmaceutical chemist; or

(e) a person employed as a pharmacist by the armed forces of Canada or by a visiting force as defined in the Visiting Forces Act (Canada) from practising as a pharmaceutical chemist.

19. A substance described in Schedule A or B, when in the possession of a pharmaceutical chemist, shall be stored in a place

(a) that is used only for that purpose;

(b) that is kept securely locked at all times; and

(c) to which only a pharmaceutical chemist has access.

20. No person shall supply to any person any of the substances described in Schedules A to C except as authorized by this Ordinance.

21. A pharmaceutical chemist may supply a substance described in Schedule A to

(a) a medical practitioner;

(b) a veterinary surgeon;

(c) a dentist; or

(d) a person who has in his possession a prescription signed by one of the persons listed in paragraphs (a) to (c).
22. (1) Subject to subsection (2), a pharmaceutical chemist may, on the oral request of a medical practitioner, veterinary surgeon or dentist, supply to that person or to a person named by him a substance described in Items 1 to 7 of Schedule A.

(2) Before supplying any substance referred to in subsection (1) pursuant to an oral request a pharmaceutical chemist shall

(a) take reasonable precautions to satisfy himself that the person making the oral request is a medical practitioner, veterinary surgeon or dentist and that the person to whom the substance is delivered is the person who requested it or for whom it was requested; and

(b) enter in a register kept exclusively for the purpose

(i) the date and number of the prescription,
(ii) the name and address of the person requesting the substance,
(iii) the name and address of the person for whom the substance is requested,
(iv) the name and quantity of the substance supplied, and
(v) the directions for the use of the substance given with it and any directions respecting the refilling of the prescription. 1966(2nd),c.18,s.1.

23. A pharmaceutical chemist may supply a substance described in Schedule B to

(a) any person described in paragraphs 21(a) to (d); or
(b) any person if before supplying the substance he enters in a register kept exclusively for the purpose

(i) the date on which he supplies the substance,
(ii) the name and amount of the substance,
(iii) the declared purpose for which the substance is required,
(iv) the price paid, if any, and
(v) his signature,

and the person to whom the substance is supplied signs his name and address to the entry. 1963(2nd),c.21,s.3,"21"; 1964(1st),c.11,s.7.

24. A pharmaceutical chemist or a merchant may supply to any person a substance described in Schedule C if before supplying the substance he enters in a register kept exclusively for the purpose

(a) the date on which he supplies the substance, and
(b) the name and the amount of the substance,
and the person to whom the substance is supplied signs his name and address to the entry. 1963(2nd),c.21,s.3,“22”; 1964(1st),c.11,s.7.

Poison not to be supplied to certain persons

25. Notwithstanding anything in this Ordinance, no person shall supply a substance described in Schedules A to D to a person

(a) of whose identity he is not reasonably assured;
(b) who is not of the age of sixteen years; or
(c) of whose understanding of the dangers inherent in the use of the substance he is not reasonably certain.

1963(2nd),c.21,s.3,“23”; 1964(1st),c.11,s.8.

How poisons to be labelled

26. Every substance described in Schedules A to D supplied other than pursuant to a written prescription signed by a medical practitioner, dentist or veterinary surgeon shall, prior to delivery, be labelled with

(a) the common name of the substance,
(b) the design of skull and cross-bones, and
(c) the word “POISON” in large, bold type.

1963(2nd),c.21,s.3,“24”.

Commissioner may alter Schedules A to D

27. The Commissioner may alter, add to or remove from the list of substances listed and described in Schedules A to D.

1963(2nd),c.21,s.3,“25”.

Schedule A

1. Apomorphine and its preparations.
2. Curare and Curarin.
3. Hydrocyanic (Prussic) Acid.
5. Physostigmine, its alkaloids and preparations.
6. Picrotoxin.
8. All drugs listed in Schedules F and G of the Food and Drug Act.
9. All drugs listed in the Schedule of the Narcotic Control Act except solid preparations containing ½ grain or less of codeine per tablet or capsule in combination with other medicinal ingredients in doses not exceeding those of the British Pharmacopoeia and generally recognized as safe medication.

R.O.,c.77,Sched.A; 1960(2nd),c.7,s.6; 1963(2nd),c.21,s.4.

Schedule B

1. Acetanilid in doses in excess of 1 grain.
2. Aconite and its alkaloids, compounds and preparations except preparations for use in the control of plant diseases or
of pests and predators of plants and animals or of animal pests and when clearly labelled as for such purposes.

3. Poisonous vegetable alkaloids, not otherwise specifically mentioned elsewhere in Schedules A to D, and their salts and poisonous derivatives.

4. Amyl Nitrate.

5. Inorganic and organic compounds containing in excess of 1% of antimony calculated as \( \text{Sb}_2\text{O}_3 \), except preparations for use in the control of plant diseases or of pests and predators of plants and animals or of animal pests when clearly labelled as for such purposes.

6. Inorganic or organic compounds containing in excess of 0.01% of arsenic, calculated as \( \text{As}_2\text{O}_3 \), except preparations for use in the control of plant diseases or of pests and predators of plants and animals or of animal pests when clearly labelled as for such purposes.

7. Atropine, its salts and preparations.

8. Belladonna, its preparations and compounds except Belladonna plaster.

9. Barium Salts, other than the Sulphate.

10. Cantharides and Cantharidin and their preparations except preparations for use as fly blisters and hair compounds.

11. Chloroform.


13. Conium, its preparations and compounds.

14. Croton Oil.

15. Digitalis and all allied substances having a distinctive action on the heart, in concentrations having in excess of one unit of activity per 30 grains.

16. Ether (pure).

17. Elaterin.

18. Emetine and its salts and preparations containing in excess of 1.0% of Emetine or its salts.

19. Ephedrine and its alkaloids and preparations containing in excess of 1.0% of Ephedrine or its alkaloids.

20. Euphorbium.

21. Gelsemium and preparations containing in excess of 0.1% of its alkaloids.


23. Mercury and its salts.

24. Mydriatic Alkaloids, their sources and salts and preparations containing in excess of 0.15% of mydriatic alkaloids, their sources or salts, calculated as hyoscyamine.


26. Oil of Savin.

27. Potassium Cyanide and all other metallic cyanides.

28. Strychnine its salts and preparations except preparations for use in the control of plant diseases or of pests and predators of plants and animals or of animal pests when clearly labelled as for such purposes.
29. Thallium Compounds.
30. Alkaloids of Veratrum, and preparations containing in excess of 1.0% veratrine.
32. Any other substance the medicinal dose of which is less than 0.5 grains or the toxic dose of which is less than 3 grains.

R.O., c.77, Sched. B; 1963 (2nd), c.21, s.4.

Schedule C

1. Acid Acetic Glacial.
2. Acid Chromic.
3. Acid Hydrochloric in concentrations in excess of 10% HCl.
4. Acid Hydrofluoric and Alkali Fluorides.
5. Acid Nitric in concentrations in excess of 10% HNO₃.
6. Acid Oxalic and all oxalates.
7. Acid Picric in concentrations in excess of 5.0% C₆H₄OH (NO₂).
8. Acid Phosphoric in concentrations in excess of 10% H₃PO₄.
9. Acid Sulphuric in concentrations in excess of 10% H₂SO₄.
10. Copper salts, excluding the sulphate.
11. Cresol and preparations containing in excess of 5% of cresol.
12. Creosote.
14. Ether (commercial).
15. Formaldehyde.
16. Hellebore.
17. Iodine and its preparations except tinctures containing not more than 2 1/2% iodine.
18. Jaborandi and its alkaloids and preparations containing in excess of 0.025% of its alkaloids.
19. Lead Salts and their preparations except red and white lead, lead chromate, lead plaster and preparations for use in the control of plant diseases or of pests and predators of plants and animals or of animal pests when clearly labelled as for such purposes.
20. Lobelia and preparations containing in excess of 0.1% of its alkaloids except asthma cigarettes and fumigants.
21. Nicotine, other than in tobacco and in preparations for use in the control of plant diseases or of pests and predators of plants and animals or of animal pests when clearly labelled as for such purposes.
22. Nitrobenzene and admixtures containing in excess of 0.1% of C₆H₅NO₂ except soaps.
23. Oil of Cedar.
24. Oil of Bitter Almonds unless deprived of hydrocyanic acid.
25. Oil of Pennyroyal.
26. Oil of Tansy.
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27. Phenol (Carbolic Acid) and preparations containing in excess of 5% of phenol.
28. Phenylene Diamines and homologues thereof.
29. Phosphorus in a free state.
30. Potassium Bichromate.
31. Potassium Hydroxide.
32. Potassium Permanganate.
33. Sabadilla Seeds.
34. Santonin.
35. Silver Salts.
36. Sodium Hydroxide.
37. Stavesacre Seeds.
38. Zinc Salts except the oxide and carbonate.
39. Any substance the medicinal dose of which is less than 5 grains or the toxic dose is less than 30 grains.

1963(2nd), c.21, s.4; C.O., 23-65.

Schedule D

1. Poisonous preparations for use in the control of plant diseases or of pests and predators of plants and animals or of animal, insect or plant pests.
2. Turpentine and other solvents not otherwise specified in these schedules.
3. Chloride of Lime.
4. Poisonous chemicals used in connection with photography.
5. Methyl Hydrate (Wood Alcohol) except when supplied in containers which state the use to which the substance is to be put.
6. Carbon Tetrachloride except when supplied in containers which state the use to which the substance is to be put.
7. Ammonia in concentrations is excess of 10% NH₃ except when supplied in containers which state the use to which the substance is to be put.
8. Iodine and its preparations except tinctures containing not more than 2½% iodine. 1963(2nd), c.21, s.4; C.O., 23-65.

Schedule E

FORM A

REGISTRATION CERTIFICATE

TO ALL TO WHOM THESE PRESENTS SHALL COME OR WHOM THE SAME MAY IN ANYWISE CONCERN:

............................................................................................................................................ has qualified for registration in the Pharmaceutical Chemists Register pursuant to the Pharmacy Ordinance and that pursuant to and under the authority of the said Ordinance I have authorized him, the said............................................................................................................................................ to be registered therein.

1415
BILL 6 - 80(1)

A BILL TO AMEND THE PHARMACY ORDINANCE

The Commissioner of the Northwest Territories, by and with the advice and consent of the Council of the said Territories, enacts as follows:

1. Paragraph 12(1)(b) of the Pharmacy Ordinance is repealed and the following substituted therefor:

"(b) appends to his name or uses the title pharmaceutical chemist, pharmacist, dispensing chemist, druggist, dispensing druggist, apothecary, herbalist or any word indicative of any such title or any substitution or abbreviation thereof;".