SATELLITE CLINIC

"Design of satellite clinics as a system of out-patient departments of general hospitals."

This thesis contains an investigation of systems and facts related to public health from which a program for a satellite clinic has been derived, that might answer the future needs of communities.

In Chapter I, the problem is exposed without analysis. The study context is situated.

In Chapter II, the topics are (1) statistics; (2) health reports; (3) previous experiences. This study is based on these three main coordinates which delimit where the satellite clinic could move and be organized. The statistics are divided into (i) general data; (ii) outpatient data; (iii) hospital data. The health reports are divided into (i) analysis of some points of interest in the public health system; (ii) public health systems in different countries and in Canada. The previous experiences are divided into (i) questionnaire sent to fifteen nations concerning health systems; (ii) different interesting solutions experienced by various countries.

In Chapter III, the facts are faced, solutions are proposed and architectural programs related to these solutions are defined.

A set of tables is included in an envelop attached to the end cover of the text.

ROGER TEWFIK DIAB

"Design of satellite clinics as a system of Out-Patient Departments of General Hospitals."

School of Architecture M. Arch.

August, 1970

ACKNOWLEDGEMENTS

The author wishes to express his gratitude to the following who have helped him in his work,

DR. BASIL LAYTON, Chief officer of International Health Ottawa, for his valuable advices.

Mr. GEORGE W. PECK, Chief of Health Facilities, Design Division, Department of National Health and Welfare, Ottawa, for the valuable advice in the determination of my study.

Dr. SLATKOFF, Medical Director of the Jewish General Hospital for giving me the opportunity to go through the departments of the hospital.

Mr. A. DESKIN, Hospital Chief Administrator, Jewish General Hospital, Montreal, for many hours of his time and so many hours of the personel in the various departments of the hospital that were dedicated to my assistance together with a full cooperation.

All the doctors, nurses, and other personel who received me so kindly and gave me at every visit three or four hours of their time answering my questions and explaining me the function of their departments.

Mr. JOHN DAVIS, Director of the Institutions Section and his assistant Mr. J. THOMPKINS for their assistance in permitting me to occupy one of the offices for four days in Ottawa and giving me a full access to the statistics concerning Montreal Hospitals.

Professor JOHN BLAND for his continuous guidance and encouragement.

And finally the administration staff of the McGill University School of Architecture and especially Miss MAUREEN ANDERSON for their assistance and encouragement.

LIST OF TABLES

Abbreviations: OP for outpatients

H for hospital

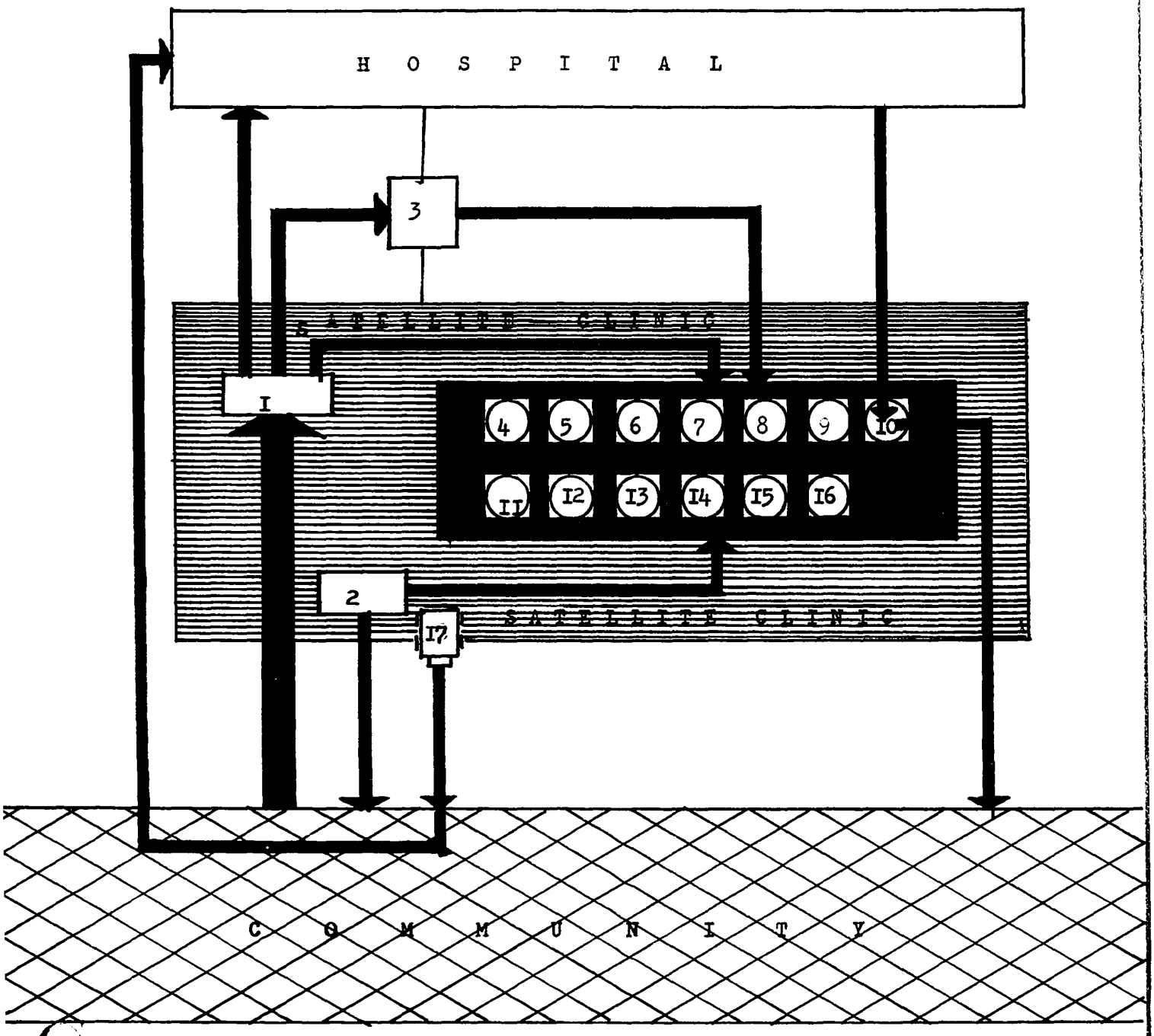
M for mortality rates

G for general

LIST OF DIAGRAMS

TABLE OF CONTENTS

DIAGRAM SHOWING THE WORKING SYSTEM OF
A " SATELLITE CLINIC"



I N D E X . Of

WORKING SYSTEM DIAGRAM FOR THE SATELLITE CLINIC.

INTRODUCTION

I am a Lebanese, graduated from the School of Architecture, Cairo University, in 1958. Since that date I was trained in Egypt, worked in Lebanon and had my own office in the Arabian Gulf for the last six years.

In 1968, I decided to improve my knowledge and presented my papers to McGill University and I was given the opportunity to be a postgraduate in its School of Architecture.

On my arrival to Canada from Lebanon for my studies, I had the good chance to be helped in my studies by Professor John Bland, the Director of the McGill University School of Architecture, who also helped me to get in touch with responsible people for my investigations, moreover to prepare for future specialization in the United Kingdom from October 1970 to May 1971 in Hospital Design after obtaining my degree from McGill.

While Professor Bland was always following my steps in the course I was doing with him, I was following other courses in the School of Nurses and a planning seminar to improve my way in thinking and facing the problems.

The choice of my topic is the architectural programmation of a satellite clinic deriving from real facts and figures to meet the needs of future Canadian communities for new aspects of health delivery systems.

My study consisted of two main parts:

a - A general study to be familiar with the way a hospital delivers care, and with the architectural ensemble of elements needed to fulfill the requirements for treatment;

b - A more detailed study on outpatients conditions studying an ideal system of satellite clinics that could theoritically solve the problem of care delivery on different levels in communities which is the subject of this thesis.

I have noted the published sources of references as much as I could and I have tried to have reliable sources of information as the Royal Commission Report, and other research periodicals from the Medical Library at McGill where I worked for the last two months. I hope that my English language is not very shocking and I beg the reader, whenever he is shocked by my language to imagine himself preparing a thesis in Arabic.

CHAPTER I

THE CONTEXT OF THE PROBLEM

With the evolution of the health system in Canada, it is time to think of a transition from our present system to new approaches and systems concerning health delivery. My personal idea is that the future needs of communities for health services can be analyzed and judged only on the basis of accurate statistics on the morbidity conditions and mortality rates of the population.

Mortalities do not necessarily indicate the way to be followed by health services systems. However morbidity is directly involved in the need for health services in different sectors of the population.

There is an interesting relation between the two curves of morbidities and health auxiliary services; their fluctuating curves are not parallel. The rate of increase for the services curve is superior to the one of the morbidity curve. This is mainly due to specialization and considerable sophistication of medical science to-day, which requires more auxiliary services than some years ago, e.g. an admission that required two lab exams and two X-rays two years ago might require to-day three lab exams and five X-rays. Which means that the rate ratio between auxiliary services and morbidity is about 2 to 1 respectively.

When the various major causes and results of morbidities are found out the problem becomes clear.

There are some diseases that are classified by statistics in North America as the leading causes of death. These diseases consume an important part of the biomedical research programs of the nations involved and require an intense quality of care and attention from the three sources concerned with problems of public health namely: Governments, Hospitals, Doctors. To-day these diseases are treated in the same hospitals where all other minor diseases are treated.

If we compare the percentage of morbidity of these major diseases to the other minor diseases, we could find the morbidity ratio for all categories. The same can be applied to mortality. We know by statistics that 60 per cent of our mortalities in Canada are due to Heart, Cancer and Strokes. (See table 80P)

What does this determine in our study ? This to a certain extent determines the categorization of diseases and care. It gives a picture of the diseases that have to be treated and the consequent planning necessary to help in the decrease of incidence rate, treatment of disease, maintenance of the population's health condition by continuous specific control measures. This planning is directly concerned with medical institutions, but to-day we are no longer in a situation where medical people are the only people concerned in finding solutions for the problems of urban communities. These problems also concern urbanists, architects, sociologists, psychologists and nurses, because everyone of these people is concerned with some factor influencing the human being in the community. For

architects it might be useful to be familiar with the different determinants of the problem.

What is the problem and what is its context ?

> In a Report of the National Advisory Commission on Health to the then President of the United States, Lyndon Johnson, the conclusion was that the crisis is not one of numbers for each category of beds, though this is important. It involves the "organization of care" and the system by which it is provided.
>
> Unhappily the Commission finds that the so-called system in the U.S. is not a system at all but is more a collection of bits and pieces with over-lapping duplication great gaps, high costs and wasted efforts.

Another report: *4

> In December 1964 when the President of the United States, Lyndon Johnson and his advisers felt that research findings were not being applied rapidly and effectively enough compared to the big budgets assigned to them ($87 million in 1947
> $2257 billions in 1967; total for twenty years), the President appointed a Commission on Heart Disease, Cancer and Stroke, the three leading causes of death. The report issued focused attention on the delivery of health services to combat these diseases. It recommended a network of regional centers based on medical schools but the Congress after listening to a number of spokesmen, particularly representatives of practicing physicians and community hospitals passed the Regional Programs Act incorporating a different concept, that of regional cooperative arrangements among existing health resources.

In the Report of the Royal Commission on Health Services 1965, volume 2, page 258, the conclusion of the chapter concerned with the co-ordination of Health Services at the Community Level reports:

(...) Tracing the development of Canada's health services it becomes clear that the present situation is the result of the growing fragmentation of the vast body of scientific knowledge as well as of the social and political patterns. These factors together with changing health problems brought about new services, new disciplines and a transformation in such basic components of the health services as medical practice and hospital services. In this situation the need for some form of synthesis of the proliferated component parts has been felt for some time by those who have to work with them. As a result new patterns have developed here and there such as medical group practice, organized home care services and co-ordinated rehabilitation services all of which carry some of the seeds of co-ordination. The basic features of co-ordinated community services are there and all that is needed is their systematic application and encouragement instead of letting each community grope for a solution of its own problems without the benefit of the experience already available elsewhere.

Together with an appreciation of the need for co-ordination there has developed a growing awareness of the necessity for broader planning beyond the scope and needs of an individual institution or even community. Regional hospital planning, as we have pointed out, has become accepted as the only logical way by which to provide hospital services of high quality and provide them efficiently.

(...) A multiplicity of agencies and auspices in local health services in part of Canada's social and constitutional fabric. Variety, in a country as vast and heterogeneous as ours is not only necessary but also beneficial because of the varied experiences to be gained and the assessment of the best results achieved with given resources and individual and community initiative.

But it can be advantageous to Canadians only to the extent that it results from carefully examined needs and thorough planning in all its ramifications and implications. This is what the proposed organization is intended to accomplish for the benefit of all Canadians in every part of this country.

This shows that efforts are being made to have new attitudes towards health services and to study means for

an efficient application of a high level of service to all sectors of the population. At the moment, there are three main groups of experts organizing Health Services in a country:

The pre-illness group: concerned mainly in the biomedical research, prevention of diseases and maintenance of good health.

The post-illness group: concerned mainly in diagnosis and treatment of diseases.

The calculating group: concerned in counting the results of the two other groups.

By analyzing the work done by these three groups we find that the stress is on the post-illness group which treats diseases (doctors and hospitals). It is the one emphasized today in all our medical schools and universities. The result of this emphasis is a large number of specialized doctors treating, on a one-to-one basis, a very large number of ill patients on an ascendant quantity curve in clinics or hospitals, resulting in long waiting lists, big losses in time, energy and money. Whereas the pre-illness group is mainly researching in the laboratories to find methods of detecting and curing diseases. But how can we transpose the results of these laboratory researches on a community level ? This is part of a speech by the U.S. Secretary of Health, Education and Welfare, 1968. He said:

> In 1968 about $163 billion or roughly 20% of the Nation's entire gross national product went for health, education and social services. (...)

> The Nation invests $50 billion each year - 6% of its gross national product on health. (...)
>
> Only an infinitesimal fraction of this investment goes toward improving the way our whole system of health care works. It will not be easy to leap such health hurdles, we may have to climb over them slowly. Current needs point in separate, but overlapping directions. While sustaining and increasing efforts in basic medical and biological research we must improve methods of delivering and paying for health care. (...)
>
> In every health program we undertake we should intensify research on the delivery of services. It is useless to learn the results of cigarette smoking or to find a new vaccine or surgical technique if people can't learn about and use them. Research discoveries in the laboratory until they are applied save mice not men.
>
> A nation which can invent a machine to keep a man alive can invent ways of getting man and machine together and keeping them together as long as necessary.

These quotations point to the context of my problem. They point to a problem in the delivery of health services.

This problem is what I shall try to analyze in the following chapters. I shall try to do this in terms of the three coordinates of my problem: the statistics, the health reports and the previous experiences.

CHAPTER II

THE ANALYSIS OF THE PROBLEM

CHAPTER II

SECTION A - COORDINATE 1: STATISTICS

(i) GENERAL DATA

The available data in the eight tables G-1 to G-8 were supplied to me by the Department of Health - Hospital Insurance Directorate - Financial Services. (Refer to sheet 1).

These general data point out to two main points:*

1) The increase in the number of admissions is 19 per cent for the five years from 1964 to 1968 while the relative increase of expenses for the same period is 94 per cent.
2) The increase in outpatients visits is 382 per cent while the increase in the in-patients admissions is 19 per cent for the same period.

These two points immediately move us to the context of the problem quantitatively speaking. It points to the two areas where the detailed statistical investigation is needed.

The Out-patient and the In-patient.

My next step is to investigate each of these two areas and to find out the magnitude of the problem.

---

* Please refer to diagrams in appendix related to Sheet 1.

CHAPTER II

SECTION A:

ii - OUTPATIENT DATA

I was given the chance to have access to the hospital statistics at the Dominion Bureau of Statistics in Ottawa and there are gathered all the statistics of the years 1966-67-68 concerning outpatient departments for each of the fifty hospitals in the area of Montreal. Of these hospitals, ten had fully completed forms, with all the required data. I considered the comparison between these ten hospitals indicative to a certain extent of the situation in Montreal because the proportion of the outpatients of these ten hospitals was more than 80 per cent of the total outpatients in Montreal, so I judged that my analysis of the different statistics could be achieved with a minimum margin of error.

In the following section of Chapter II, I try to find indexes for the outpatients statistics.

In all the tables, I mention two comparative indexes:

a) the "percentage of increase" quantity;

b) the "percentage of increase" rate.

The "percentage of increase" quantity is related to the Y coordinate, the highest the biggest.

The "percentage of increase" rate is related to the difference between the increase in 1967 and the increase in 1968.

The rate is obtained by dividing the 1968 by the 1967 to obtain a figure that indicates how many times bigger was the growth percentage in 1968 than in 1967.

TABLE 1*

COMPARATIVE FLUCTUATIONS BETWEEN TOTALS OF DIFFERENT LABORATORY TESTS

Basic year 1966

Laboratory test	Percentage of increase	
	1967	1968
Haematology	8.2	43
Biochemistry (Urines)	18	102
Biochemistry (Blood)	56	129
Bacteriology	11	71
Totals of all services	25	82
Attendances	1.6	8.2

Observations: Comparing different laboratory tests, the table shows during the last three years the following:

1) the laboratory tests show the highest "percentage of increase" quantity for blood tests and following in order: urine tests, bacteriology, haematology.
2) Comparing attendances and the different other curves to find the "percentage of increase" rate, we notice the following:

Rates:		
	Attendances	5
	Biochemistry blood	2.3
	Biochemistry urine	5.6

* For the following tables, 1 to 8 OP, please refer to respective diagrams in the appendix.

Bacteriology	6.4
Haematology	5.2
Totals	3.2

This shows that in spite of the feeling that the Biochemistry is increasing disproportionate with the attendances, it is not. The rate shows that the only disproportionate increase that has to be considered is in Bacteriology which shows that the medical professionals may need to explain the abnormal growth of bacteriology tests.

Conclusion: If the load of attendances can be predicted by statistical figures for each community satellite clinic, it becomes feasible to plan for the needs of the community concerning laboratory tests, for years to come.

Assuming we know the production speed of the equipment used for every 100 units it will be possible to know the productivity per day and exactly how many equipment units are necessary and what personnel is required.

The prediction will be correct on the assumption that the "percentage of increase" rate is known and remains constant.

Then by multiplying the predicted attendances by the coefficient of increase in every category of lab tests, we have the global quantity of tests to be achieved.

TABLE 2

COMPARATIVE FLUCTUATIONS BETWEEN ATTENDANCES

AND DIFFERENT MEDICAL SERVICES

(X-RAYS, LABORATORIES, OPERATIONS)

Basic year 1966

	Percentage of increase	
	1967	1968
Attendances	1.6	8.2
X-rays	-12	25
Laboratories	25	82
Operations	7	-4

Observations: This table shows that while one hundred attendances in 1966 became 108.2 in 1968, one hundred X-rays became 125

One hundred laboratory tests became 182

One hundred operations became 96

This means that the laboratory tests increase is the highest, then the X-rays follows.

Rates:

Attendances	5
X-ray	3
Lab tests	3.2
Operations	Rate decreases

Conclusions: It appears very urgent to have X-ray and laboratory tests facilities for the satellite clinics and their volume can be assumed as explained in table (1).

TABLE 3

COMPARATIVE FLUCTUATION BETWEEN

CHEST X-RAYS

OTHER RADIOGRAPHIC EXAMINATIONS

FLUOROSCOPIC EXAMINATIONS

Basic year 1966

Type of radiographic exam.	Percentage of increase 1967	1968
Chest X-rays	-1.4	48
Other radiographic exam.	-14	19
Fluoroscopic exam.	-10	60

Observations: The diagram shows a drop in the radiographic exams in the year 1966-1967. Then a tremendous increase especially in chest X-rays and fluoroscopic examinations.
- The chest X-ray and the fluoroscopic examination compared together show that the increase in chest X-rays was more than the fluoroscopies in 1967 compared to 1966; but suddenly the fluoroscopic examinations crossed the chest X-rays which means that their "percentage increase" quantity could have been equal in mid 1967-68. Then the fluoroscopies started being considered more important by the medical profession.

Conclusions: It seems important to provide for fluoroscopy in the satellite clinic as it is becoming more and more used, also chest X-rays continue to be necessary so the desirability of providing the satellite clinic with a radiology unit seems obvious.

TABLE 4

COMPARATIVE FLUCTUATION BETWEEN THREE MAIN CURVES

In patients admissions (hospitalization)

Out patients admissions (attendance only)

Emergency admissions (attendance only)

Basic year 1966

	Percentage of increase	
	1967	1968
In patients	0.7	6
Out patients	1.6	8.2
Emergency	9	19

Observations: Very high "percentage of increase" quantity for emergency followed by out patients and in patients, while comparing the rates, the highest is the in patients followed by out patients.

- A certain parallellism between the two curves of out and in patients; the increase in the quantity for out patients is equilibrated by the increase in rate for in patients which brings them to this parallellism.

Rates:		
	In patients	8.5
	Out patients	5
	Emergency	2.1

Conclusions: The norms of consideration for emergency cases are becoming more and more loose which encourage people to go for emergencies in non urgent cases thus pushing the increase rate. The satellite clinic's home care unit and group practice will help to solve this problem.

TABLE 5

COMPARATIVE FLUCTUATION BETWEEN

A) PHYSIOTHERAPY AND OUT PATIENTS

B) PHYSIOTHERAPY AND IN PATIENTS

This table is not very conclusive because it was not clear to me if the physiotherapy attendances mentionned in the statistics were for in and out patients or only for out patients.

Basic year 1966

	Percentage of increase	
	1967	1968
a) Physiotherapy	12	42
Out patients	1.6	8.2
b) Physiotherapy	12	42
In patients	0.7	6

Observations: The "percentage of increase" quantity in the physiotherapy is very high as compared to both the out and in patients; this indicates a high proportionate ratio between both of them.

Rates:	Physiotherapy	3.5
	In patients	8.5
	Out patients	5

Conclusions: In my satellite clinic, special attention will be given to this increase in demand for physiotherapy treatment which is very apparent in the table and which means that within the next years the hospitals will hardly be able to cope with the needs of people for physiotherapy treatments which will require other implementation.

TABLE 6

COMPARATIVE FLUCTUATIONS BETWEEN

A - Total number of patient-days

B - Total number of admissions

C - Total number of beds

Basic year 1966

	Percentage of increase	
	1967	1968
Total number of patient-days	1.5	7.7
Total number of admissions	0.7	6
Total number of beds	5.5	13

Observations: The most apparent index is the high rate of patient-days and admissions compared to the rate of increase in the number of beds in 1968, showing as a result an increase in length of stay and likely long waiting lists as compared to 1967.

Rates:		
	Patient-days	5.1
	Admissions	8.5
	Beds	2.3

Conclusions: These observations concerning hospitals in patients are analyzed in detail in Section A (iii) (Hospitals data).

TABLE 7

GENERAL COMPARATIVE FLUCTUATION BETWEEN ALL THE CONCERNED SERVICES FOR OUT PATIENTS AND THE ATTENDANCES

Basic year 1966

	Percentage of increase	
	1967	1968
Attendances	1.6	8.2
Laboratories	25	82
X-rays	-12	25
Operations	7	-4
Emergencies	9	19
Physiotherapy	12	42
Electrocardiograms	31	71

Observations: The highest "percentage of increase" quantity is the laboratories, then the electrocardiograms followed by physiotherapy, X-rays, emergencies and finally operations.

While looking at the rates, the physiotherapy and the labs attract our attention and appear to need some decentralization due to expected increased needs in the future.

Rates:		
	Attendances	5
	Laboratories	3.1
	X-rays	N.A.
	Operations	N.A.
	Emergencies	2.1
	Physiotherapy	3.5
	Electrocardiogram	2.3

Conclusions: Perhaps surgical sections do not need any immediate development but it is apparent that new investigation units for out patients could absorb the heavy loads from hospital out patients departments for the following investigations:

Laboratories

X-rays

Electrocardiograms

and for the following treatment units:

Physiotherapy

Emergencies

As for the hospital with a great rate of increase it must be supposed that in some years it will be hardly able to cope with only its in patients. Hospitals have to chose to-day between two alternatives:

1) To expand their investigation department (laboratories, X-ray, E.C.G.) to cope with the rate of increase of both out and in patients and future specialities likely requiring more in quality and quantity for each category of tests.
2) The creation of another system that moves part of the load from the investigating premisses in the hospital to the community, channelled through other institutions.

TABLE 8

MORTALITY RATE IN MONTREAL

PER 100,000 POPULATION

Diseases	1968	1969
Cancer	2375	2340
Heart	4003	3821
Vascular lesion	788	824
Post-natal death	227	199
Accidents	506	530
Diabetes	222	245
Liver and galbladder	228	194
Suicides	132	141
Homicides	29	40
Tuberculosis	55	72
Influenza	128	225
Total from all causes	10,102	10,200
Population	1,235,000	1,314,000

Observations: The increase rates are: vascular lesions, accidents, diabetes, suicides, homicides, tuberculosis, influenza.

About 60 per cent of the deaths are from cancer and heart disease.

Conclusions: To find treatments for heart diseases and to try to detect vascular lesions, diabetes, tuberculosis and influenza at early stages.

CHAPTER II

SECTION A

(iii) Hospitals data

From a summary paper presented at the Conference on the Hospital Reimbursement Program in Canada and its relevance in relation to the United States*, the central concerns running throughout this conference were rising costs and the evidence of increased public resistance to rising costs.

Here are some data mentioned in the conference.

Total expenditures for all hospitals from 1955 to 1965 showed increases of the following magnitudes with a base index of 100

United States	231
England and Wales	228
Sweden	323

Cost-per-patient-day basis

United States	225
England and Wales	244
Sweden	295

Relative growth of hospital costs and third party share of expenditures

Canada 1953 (66%) of acute hospital care paid by the patient or some form of voluntary insurance.

1966 government had assumed responsibility for 90 per cent and private sources paid for only 10 per cent.

---

* Conference sponsored by Hospital Research and Educational Trust in cooperation with American Hospital Association, (Section on Medical care) and Center of Health Administration studies, University of Chicago; Chicago, Apr. 15-16, 1969.

Health Services Research, vol. 4, Number 3, fall 1969, page 170.

Health Manpower costs

Number Between 1958 and 1966 number of Canadians employed in hospitals rose almost 90 per cent

Productivity (personnel per patient-days)

	Personnel	Patient-days
1958	185	100
1966	244	100

This short list of statistics shows that hospital and health care costs in all countries studied are rising at a faster rate than the gross national product (G.N.P.) of those countries.

Hospitals and health costs of course cannot continue indefinitely to rise faster than the G.N.P. Just where to stop is not known but there are signs that brakes are being applied in both Canada and the United States. In Canada the federal-provincial hospital construction grant program, in force since 1948, will be discontinued in 1970. In the United States the Hill-Burton program is under current review by Congress.

Hospital budget increases in Ontario are being limited this year to 8.5 per cent and similar limitations are in the offing for other provinces.

Now let me present a close up on the statistical situation of health care in Canada, as compared to the U.S.A. to have a measure of our position.*

---

* Hospital Utilization and Cost Trends in Canada and the United States, by Ronald Andersen and John T. Hull. Health Services "Research", vol. 4, number 3, fall 1969, page 198.

TABLE 1

Increase in Hospital Expenditures 1950-1967

(Base year 1950 = 100)

Component of expenditure	Canada	United States
(A) Total general hospital expenditure	894	570
Use increase:		
(B) Population	148	130
(C) Days/1000 population	128	127
Price increase:		
(D) Cost of living	151	139
(E) Hospital costs not due to increased use or cost of living.	313	248

In sum, Table 1 shows high total expenditure increases both in Canada and the United States for the period under consideration, but the increase is considerably greater in Canada.

Contributing to Canada's greater expenditure increase were a higher population growth and apparently greater inflationary trend.

TABLE 2

Average Annual Percent Increase in Total Hospital Expenditure

Component of expenditure	1950-67		1950-58		1958-65		1965-67	
	Can.	U.S.	Can.	U.S.	Can.	U.S.	Can.	U.S.
Total hospital costs	13.8	10.8	14.4	10.4	12.6	10.1	15.2	15.0
Population	2.3	1.6	2.7	1.8	1.9	1.5	1.7	0.8
Use per person	1.5	1.4	2.2	0.9	1.0	1.5	0.0	3.3
Cost of living	2.4	2.0	2.5	2.3	1.4	1.3	5.3	3.0
Costs not due to increased use or cost of living	6.9	5.5	6.2	5.1	7.8	5.5	7.1	7.2

The years from 1950 to 1967 are considered in three periods: the first 1950-58 gives a historical perspective on the period prior to the passage of Canada's National Hospital and Diagnostic Services Act;

the second 1958-65 provides some indicators of the effect of that Act;

the third 1965-67 affords a similar opportunity to study the initial Medicare period in the United States.

Two main points to be seen from Tables 1 and 2:

1) use per person has increased at about the same annual rate in each country.
2) the increase in utilization did not occur at a constant rate within each country nor did the rates of increase parallel each other in the two countries.

The increase in utilization can conveniently be analyzed in terms of two measures: admissions/1000 population and average length of stay/admission.

TABLE 3 (a)

Admission rates

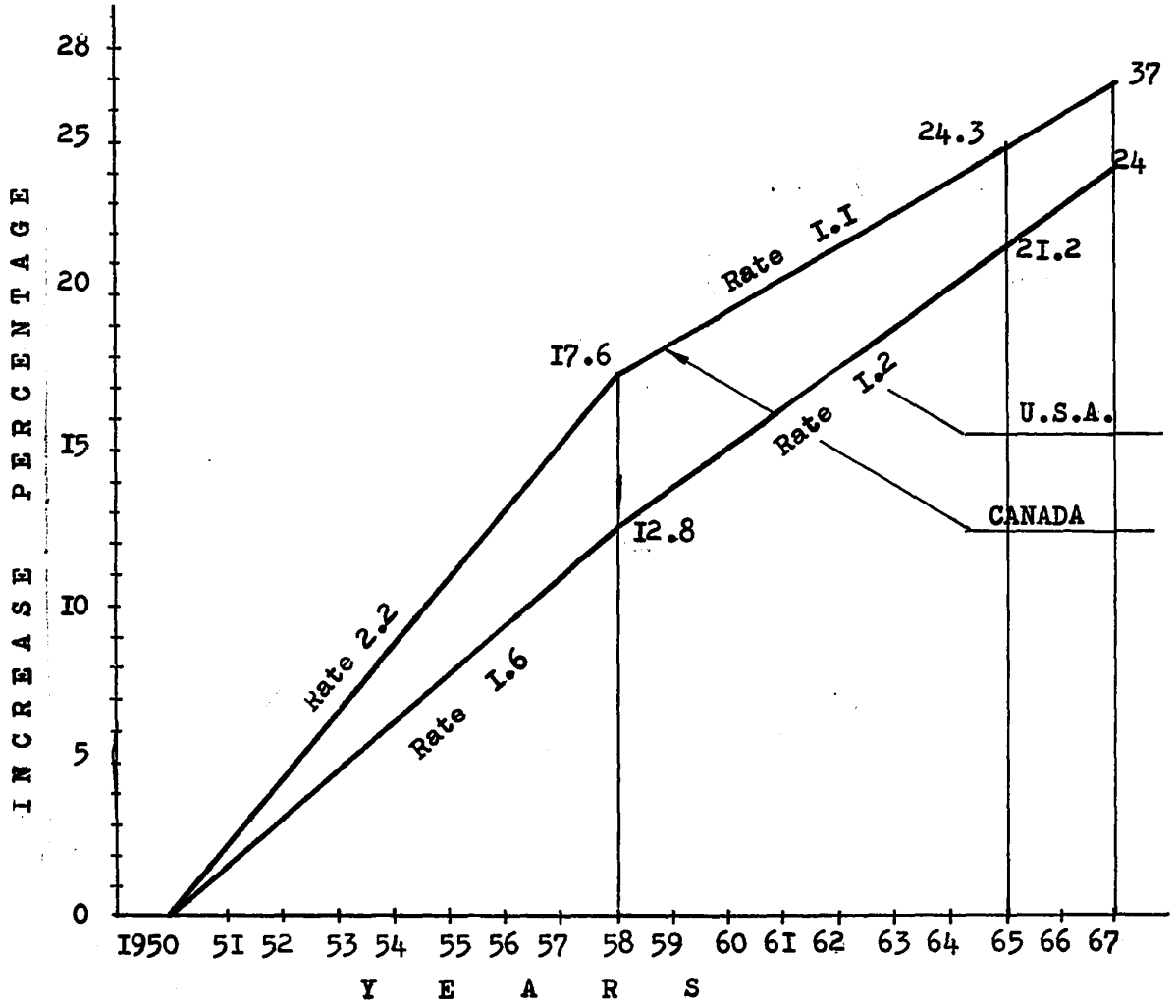


Table 3 (a) shows that the rate of increase in 1958-65 was exactly one half what it had been in the preceeding eight years while the United States in this same period dropped by only 25 per cent. In other words in the 1958-65 period admissions were increasing at a faster rate in the United States than in Canada.

From 1965 to 1967 admissions per 1000 population remained constant in the United States and dropped slightly in Canada

TABLE 3 (b)

Variables in the admissions per 1000 population for certain provinces in Canada.

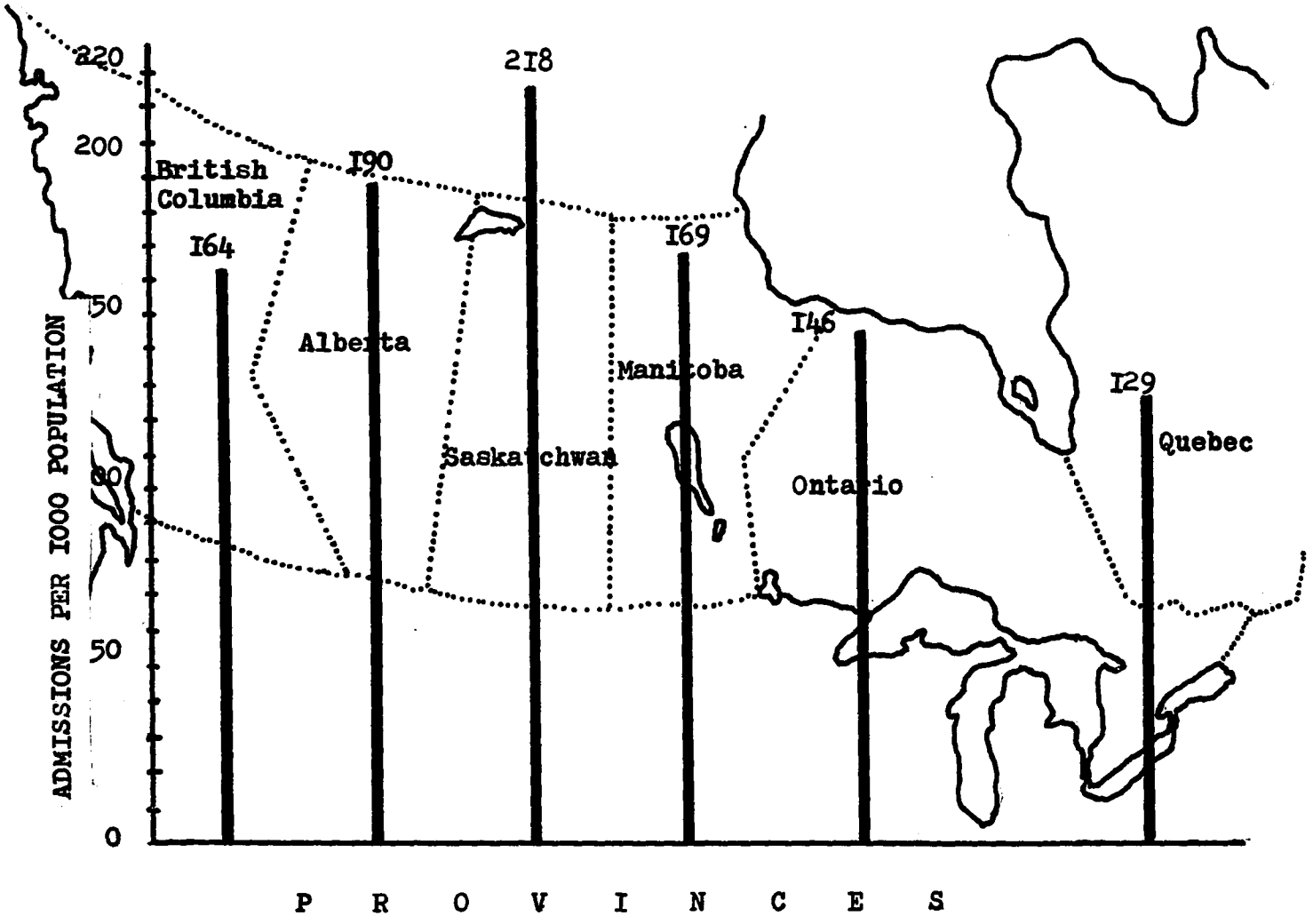


Table 3 (b) shows that Quebec has the lowest rate of admission, while Saskatchewan has the highest. But as we shall see in Table 6 (b) this does not define the rate of expenditure,which depends on length of stay and cost per patient-day.

TABLE 4

Discharge rates per 1000 population by age 0 to 65.

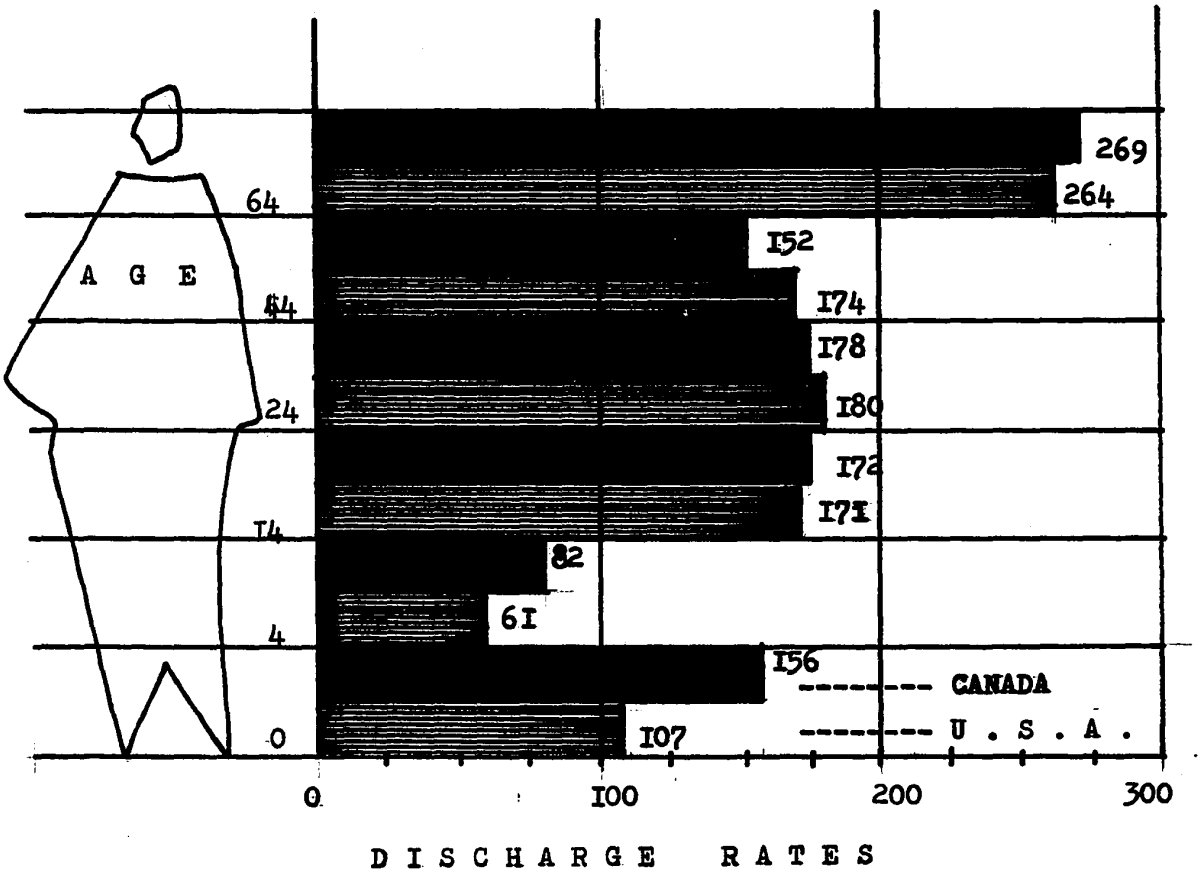


Table 4 indicates that the discharge rates are considerably higher for persons under the age of 13 in Canada while for age group 45-64 it is lower.

It is not known whether the higher admission rate reflects a higher disease incidence in Canada than in the United States.

A higher probability of hospitalization would suggest that physician norms in Canada may give rise to a greater tendancy to regard infectious diseases or diseases of children as serious and hence requiring hospitalization than the norms of U.S. physicians. A higher incidence might reflect a more severe winter in Canada

TABLE 5

Discharge rates per 1000 population by diagnosis

I do not want to reproduce the full table with all the diagnosis and their relative discharge rates but I shall pick out the major ones where Canada is having a higher rate to see what the causes are and what the solutions could be.

The table shows the discharge difference per 1000.

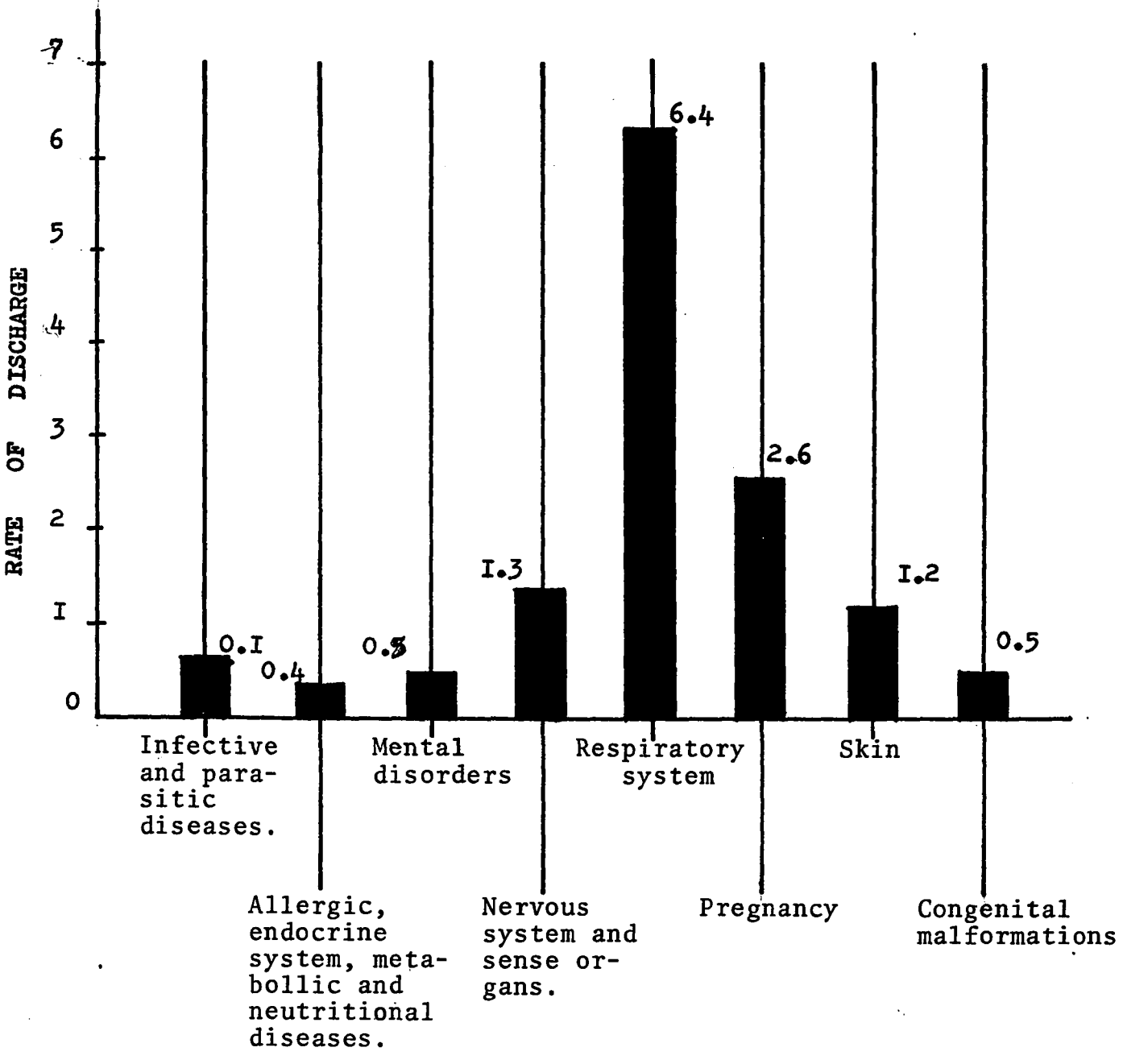


Table 5 shows a striking difference: the frequency of a respiratory condition diagnosis among persons discharged from hospitals in Canada. For this category discharge rates are more than one-third higher in Canada than in the U.S.A. It is certainly conceivable that climate might be a factor in the higher incidence of respiratory disorders in Canada. Although there is no evidence bearing directly on this.

TABLE 6 (a)

Average length of stay (1950-1967)

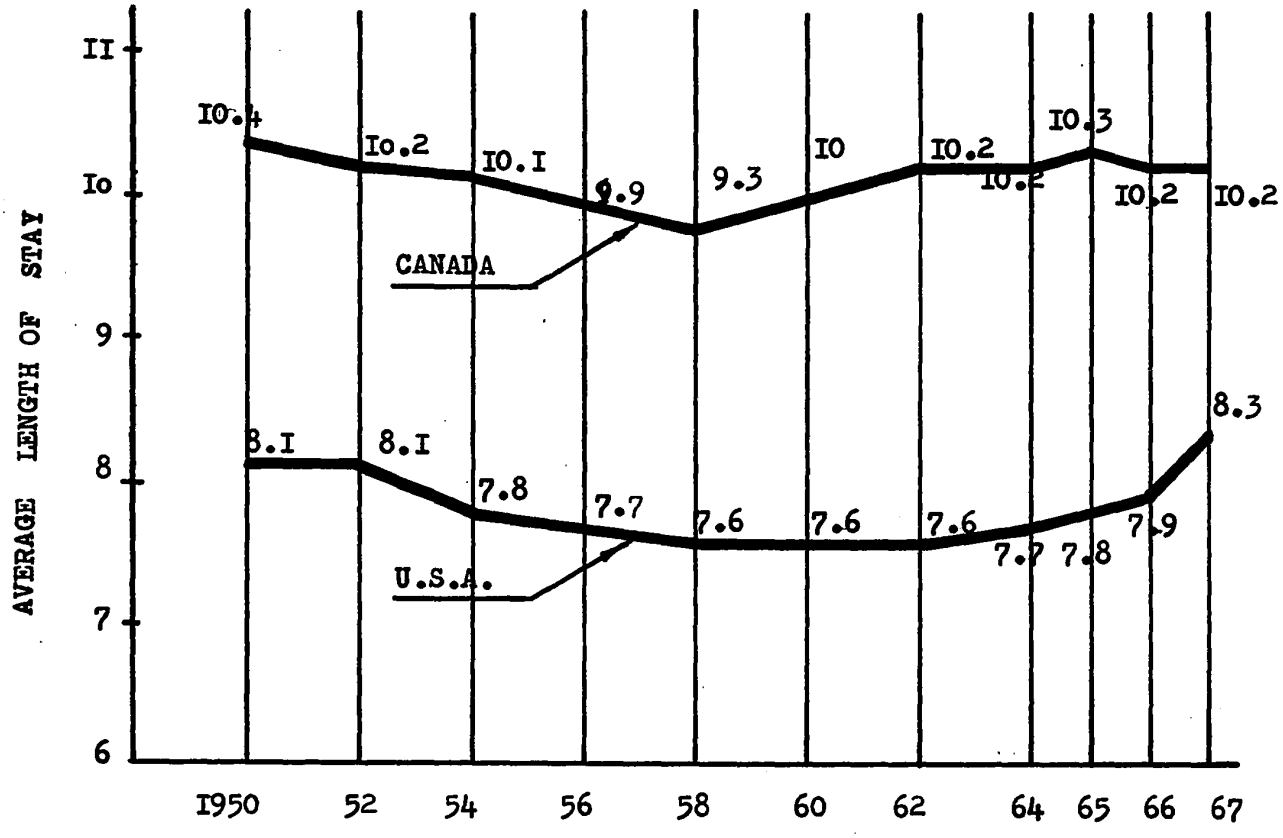


Table 6 (a) shows a continuous higher length of stay for Canada than for U.S.A. What are the factors in this consistently greater length of stay in Canada ?

One explanation might be that Canadians are more likely to be admitted for chronic disorders, which involve longer stays. An alternative one is that Canadians stay longer in each diagnostic category.

In order to test the latter hypothesis the authors* gathered information on length of stay by diagnosis in the two countries. (See tables 7 (a) and 7 (b).

* Ronald Andersen and John T. Hull.

TABLE 6 (b)

Length of stay for some provinces in Canada

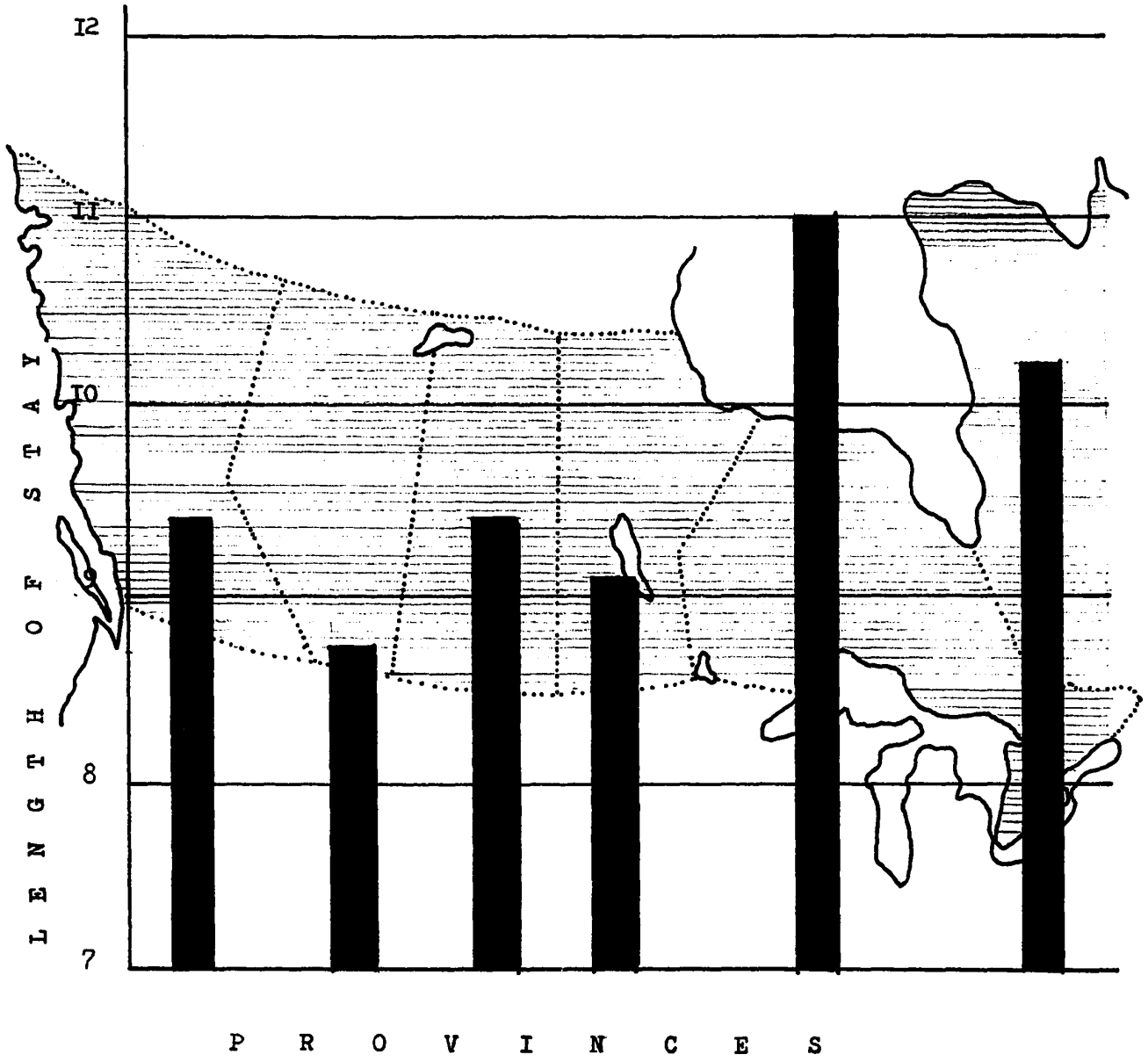


Table 6 (b) shows that the average length of stay for Quebec is nearly the highest of all the other provinces, while a comparison with admissions per 1000 shows the contrary. Quebec has the lowest percentage of all. The highest length of stay is Ontario: 11 days.

However if we take into account the expenditure per patient-day in the two provinces, Manitoba and Quebec for example, we find that they are respectively $33. and $49. Now if we compare the total expenditure per 1,000 population for Manitoba and Quebec, we find the following:

Admissions		Length of stay		Patient-day expenditure in $	
169	x	9.4	x	33	= $52,423.80
129	x	10.2	x	49	= $64,474.20

This proves that if we take separately the admissions and the patient-days it does not provide any index related to the expenses. It is very important to know the expenditure per patient-day to be able to make a true comparison between any two provinces.

And as a result of our figures, it is shown that Quebec spends more per 1,000 population than the other provinces.

TABLE 7 (a)

Average length of stay by diagnosis 1963

"Acute illnesses"

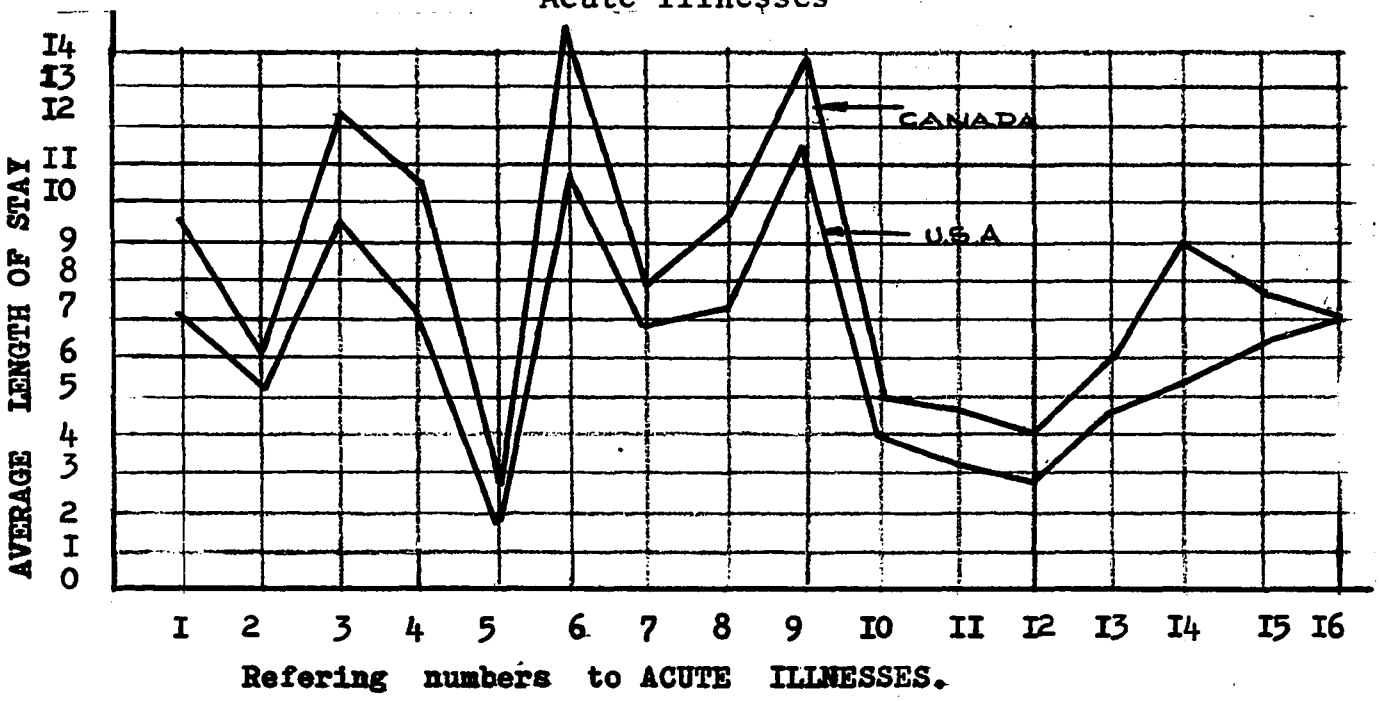
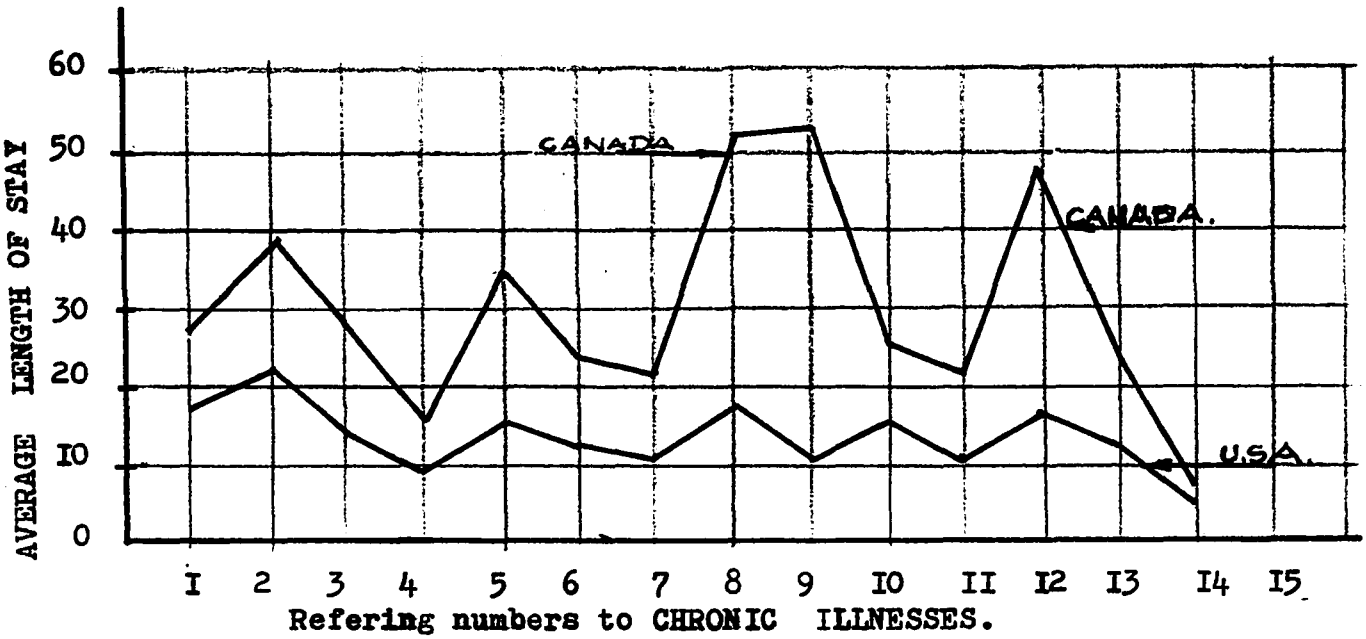


TABLE 7 (b)

Average length of stay by diagnosis 1963

"Chronic illnesses"



For type of disease, refer to following pages.

ACUTE

1. Hemorroids
2. Acute respiratory infections
3. Pneumonia
4. Bronchitis
5. Tonsils and adenoids
6. Ulcer of stomach, duodenum and jejunum
7. Appendicitis
8. Hernia of abdom. cavity
9. Disorders of gallbladder and pancreas
10. Disorders of menstruations
11. Complication of pregnancy
12. Abortion
13. Delivery, uncomplicated
14. Delivery specified complications
15. Head surgery incl. skull fracture
16. Fracture upper extremity.

CHRONIC

1. Malignant neoplasm, stomach
2. " " rectum
3. " " breast
4. " " cervix
5. " " prostate
6. " " urinary organs
7. Diabetes mellitus
8. Cerebrovascular lesions and strokes
9. Inflammatory and other diseases of central nervous system

10. Arteriosclerotic and degenerative heart diseases and other diseases of heart
11. Hypertensive disorders
12. Diseases of arteries
13. Arthritis and rheumatism
14. Symptoms, senility and ill defined conditions.

TABLE 8

Difference in length of stay for different age groups in Canada and U.S.A.

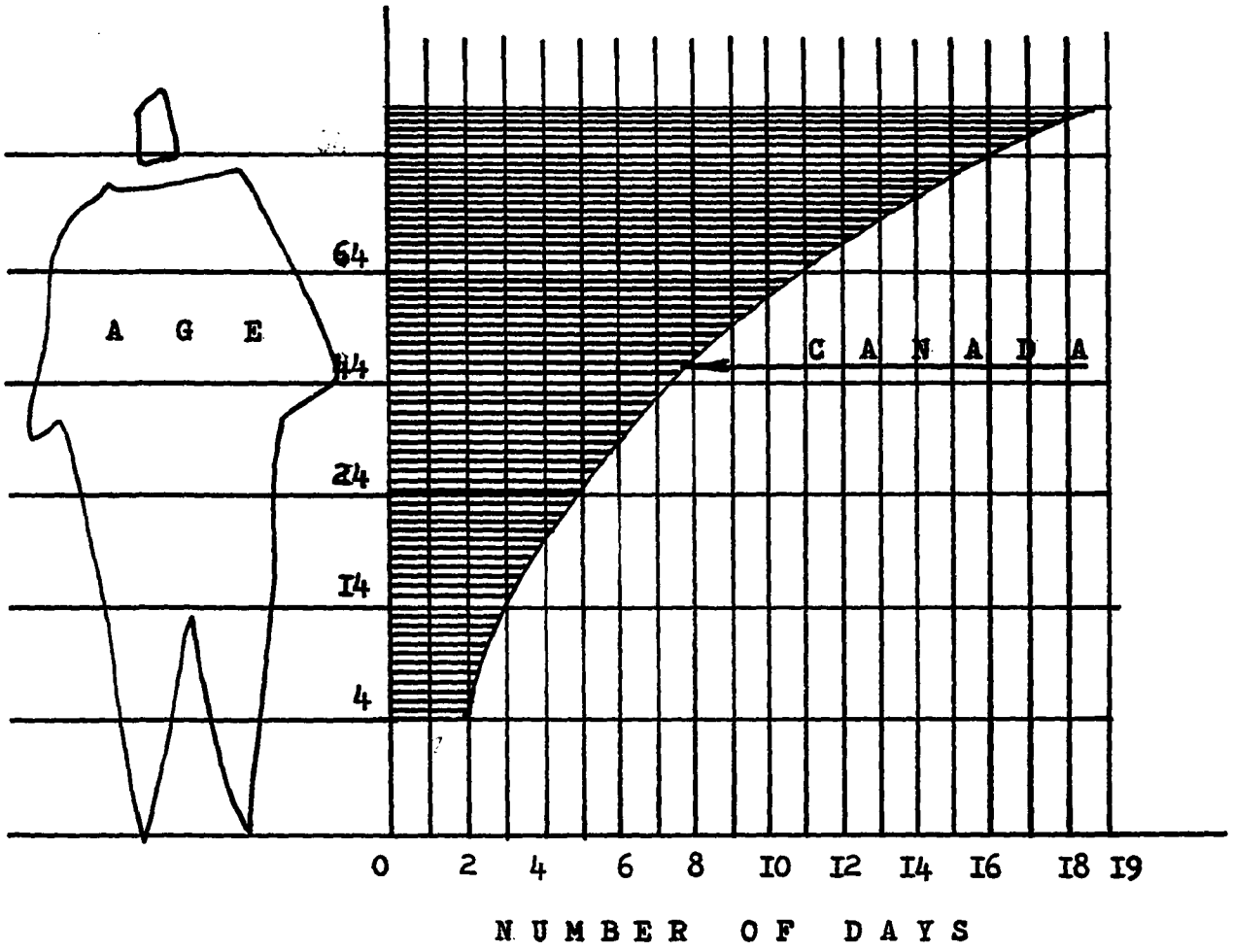


Table 8 shows an increase in length of stay for Canadians.

If you consider the vertical line, the U.S.A., the increase at various ages will be two days for those under the age of 25 and the greater difference for every group of age over 25 till it reaches 19 days for over the age of 65.

Tables 6 (a), (b), 7 (a), (b) and 8 show that Canadians stay almost one-third longer than their American counterparts for acute diseases.

For chronic disorders the discrepancies are even more marked. The average stay is almost twice as long for Canadians.

Reed and Carr* have suggested that one of the reasons for the greater length of stay in Canadian hospitals is the non availability of substitutes for general hospital care, especially nursing homes. (The number of nursing home beds per 1,000 population is 43 per cent higher in the U.S.A. than in Canada), table 8 proves it. This points out to the necessity in the satellite clinics of having some alternative solution concerning old aged that might partly contribute to solve this problem.

Another factor that affects length of stay might be its dependancy at least to some extent on the intensity of care provided while the patient is in the hospital. The more intensive the care the shorter the length of stay. One index of intensity is the number of staff per 100 beds. (Table 9, the first three lines).

---

* Reed, L.S. and W. Carr. Utilization and cost of general hospital care: Canada and the United States, 1948-1966. Sec. Bull. 31:12, Nov. 1968.

TABLE 9

Ratio of selected personnel per 100 hospital beds in 1966.

Occupational title	Ratio per hundred beds of some selected personnel		
	Canada		U.S.
Total professional personnel	42.67		34.70
Graduate nurses	26.54	Professional Personnel	18.41
Licensed practical nurses surgical and technical aides	10.63		8.38
Aides, orderlies attendants	22.47		27.96
Dietetitians	.38		.70
Medical record librarians	.33		.35
Laboratory technologists	2.15		3.69
Radiological technologists	1.28		1.41
Physical therapists	.57		0.45
Occupational therapists	.17		0.23
Pharmacists	.36		0.50
Social workers	.26		0.59
Student nurses	11.72		

In table 9 we see that if we consider the ratio of "PROFESSIONAL" personnel per 100 beds, Canada has a considerably higher ratio than U.S.A. (see the three first lines). While in all the other categories except the physical therapists the United States has the higher ratio. The very higher ratio of nurses per 100 beds seems likely to persist into the future, for the 1967 ratio of student nurses (in all types of schools) to hospital beds was

at least 35 per cent higher in Canada than in the United States.

Another interesting fact is that the ratio of total medical personnel per hundred beds in the two countries was in 1966:

261 per hundred patients in non federal short-term hospitals in U.S.A.

228 per hundred patients for public general hospitals in Canada. **

This points to two possibilities:

1) that the length of stay might be related to the intensity of care as mentioned which relies on the number of total staff per 100 of beds; and,
2) it assumes that an increase in professional staff members could create an increase in the length of stay. It might seem paradoxal but again this depends on the norms of admissions and discharges of the medical professional staff which in Canada could be more strict.

** The Canadian ratio is adjusted to exclude residents, interns and student nurses, who are not included in the United States data. The "unadjusted" Canada ratio is 261 - the same as the U.S.

TABLE 10

Proportion of hospitals expenditures per G.N.P.

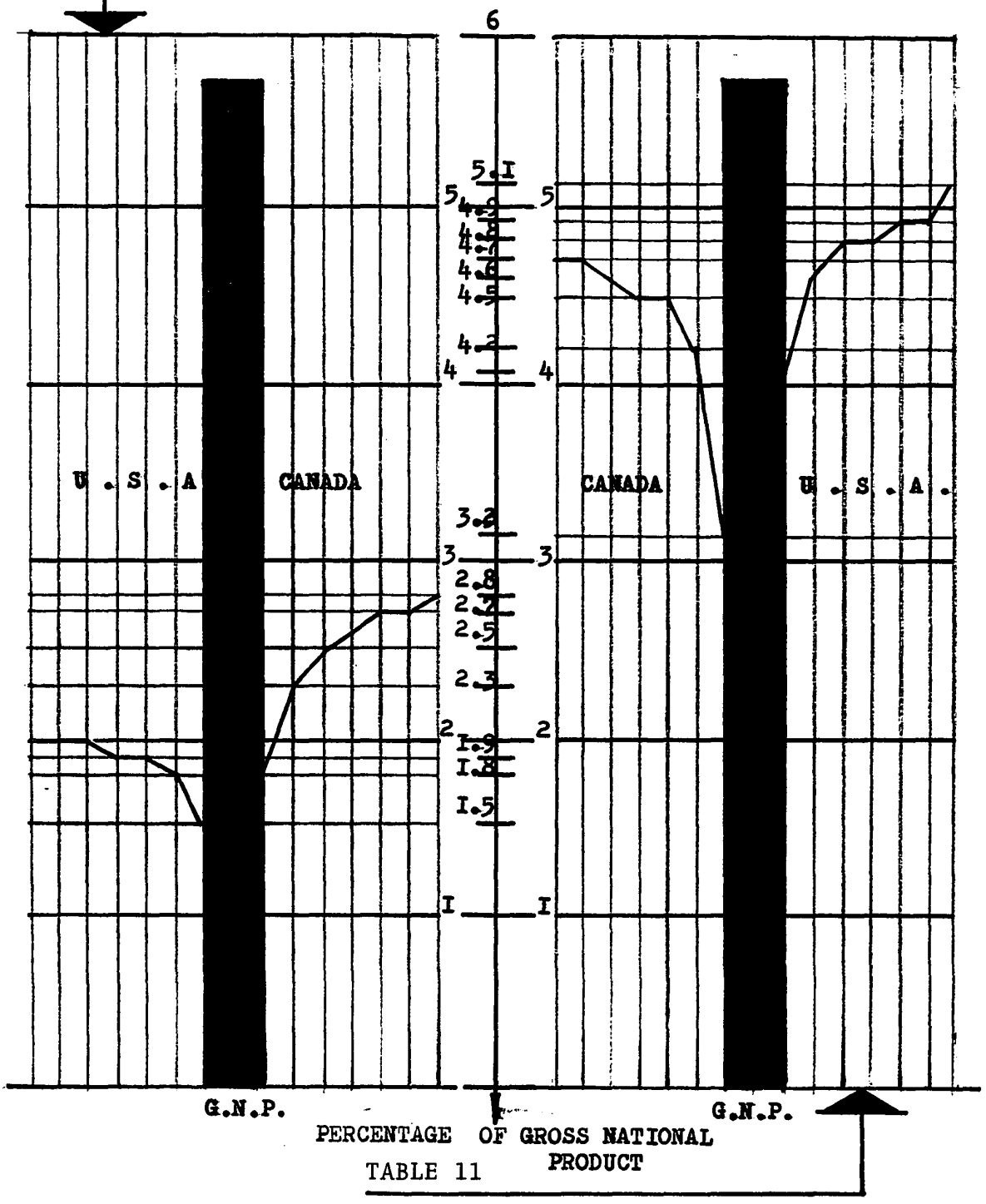


TABLE 11

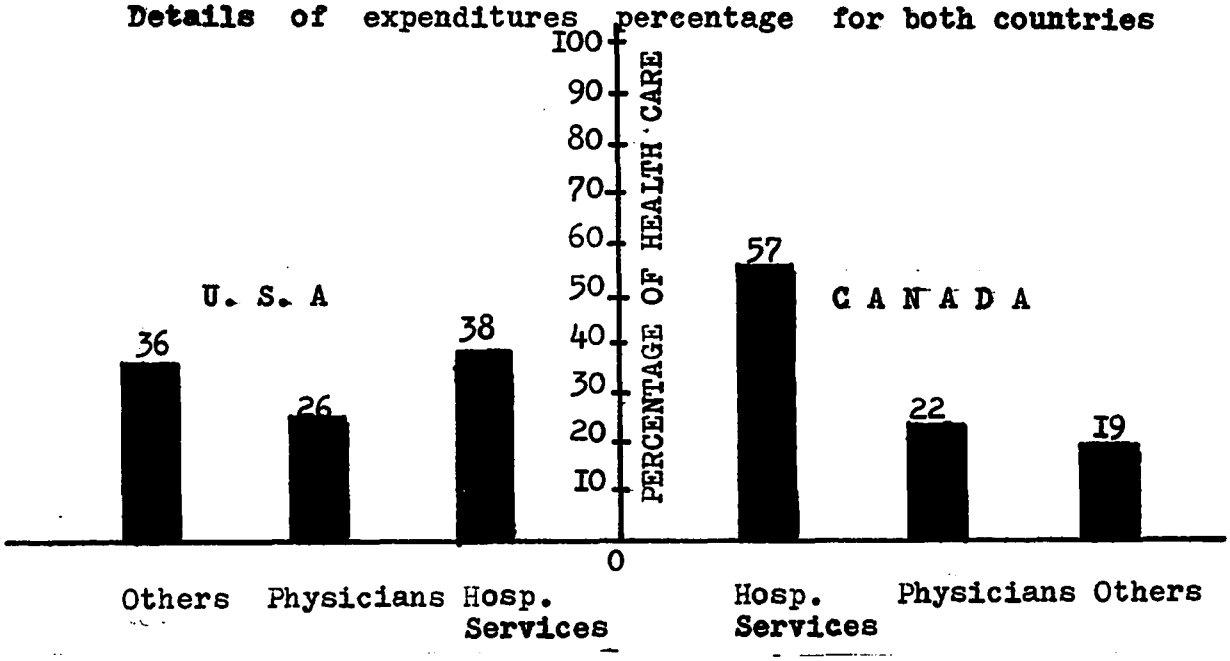
Proportion of total medical care expenditures per G.N.P.

Tables 10 and 11 show that Canada spends more than the United States for hospitals but when it comes to gross medical care expenditures the United States spends more.

Where are the differences spent in the U.S.A. other than hospitals ? Table 12 shows them.

TABLE 12

Details of expenditures percentage for both countries



It becomes clear from table 12 that Americans spend on medical drugs more of their G.N.P. than Canadians. This could indirectly indicate that part of increase in money spent by Canadians in hospitals as compared to the U.S. is counter balanced by an improvement in their health condition which reduces their spending on medical drugs as Americans do to improve their condition.

Of course this does not include all the amount of the differences but it can be assumed if considered for drugs only.

TABLE 13

PATIENT/DAY REVENUE AND EXPENDITURE RATIOS OF

OPERATING PUBLIC HOSPITALS BY PROVINCE

	Revenues		Expenditures			
Province	Net in-patient Earnings	Total	Gross salaries and wages	Medical and Surgical Supplies	Drugs	Total
New Brunswick	20.23	22.62	15.89	0.50	0.42	25.02
Quebec	39.11	44.43	33.59	1.50	1.82	49.07
Ontario	33.49	37.40	24.83	1.20	1.42	38.00
Manitoba	30.03	33.02	21.34	1.13	1.51	33.01

CHAPTER II

SECTION B - COORDINATE 2: HEALTH REPORTS

(i) Analysis of some points of interest in the health system

INTRODUCTION: In this section, I try to analyse various components of the health structure and its institutions, that are not related to figures. These components are vague though many books have been published dealing with them and proposing solutions. But still to-day, we are walking in the dark in this fascinating field of public health meeting the population's needs. I decided to pick out some points from all my readings in the library in the following pages in an attempt to have a better approach to the problem.

SCALE: When the patient arrives to the hospital he is immediately affected psychologically by a feeling of being a number, a case and he feels so infinitesimal in this huge body of the hospital that he is having a subconscious feeling of panic and scare.

Starting with the administrative routine; then to medical process; X-ray; lab examinations; back to the doctor then to the ward, handled by nurses, finally on a bed.

This is what Doctor Rabbi Gunther Plant had to say at the 44th Annual Convention of the Ontario Hospital Association in October 1968:*

> The patient who comes to you (the hospital) usually has seen a doctor first, and the process of depersonalization has already begun in his office. You are the second stage of this debilitating process.

about the necessity of producing an insurance certificate:

> He (the patient) has to produce proof that he is worthy to be a patient.
>
> (...) You are changing people around. The little things you never think about add up to big things and they have to do with the subtle alteration of the personality of the patient. (...)
>
> Those sterile, colourless, obliterating garments (hospital gowns) are making him less than an individual (...).
>
> All this is designed to convince the patient that he is a nobody.

POSITION: Human being is no more centered in any institution. He is becoming more and more marginal, in spite of the more sophisticated treatment he is given, he does not feel to be considered as an emotive man.

This applies also for hospitals where he is:

Examined Diagnosed Treated

and that ends the whole process.

IMPACT: Nobody cares about his family, job or intimate problems. The patient arrives to his bed; he knows that "now" he is the center of the earth, people will come and let him talk, listen to him, and solve his problems. But in his distress he finds nobody to be attached to, nobody to listen to him. He finds that the nurse does not come to him unless he rings her bell.

It is paradoxal to see the attention given by the nurses to the patient, emotionally speaking, decreasing compared to the increasing knowledge she is given and the longer time she is spending at school to learn how to solve the personal problems of patients. They are not applying what they have learnt about the patient, because of the lack of time and the multiple duties

a nurse has to fulfill other than taking care of the patient: filling charts, ordering the prescriptions, checking the linen, etc. It is of no use to treat a disease and figure it in the statistics if no solution has been found to eliminate the causes of this disease rather than to treat it.

Doctors solve the problems physically only, in the hospitals because of the big volume of work they are assigned and because they do not have enough time to spend listening to the stories of fifty "new" patients every day. They cannot be blamed.

FRAGMENTATION:[8]

> There is not doubt that the fragmentation of medical practice has resulted in the fragmentation of the patient. The situation could easily develop to the point of 57 varieties of specialists but no doctor to treat the individual. The task of putting the patient together again - of reconstructing the "whole man" is an essential next step in the progress of medical practice.
>
> Until there are enough general practitioners to look after the population and they are given greater encouragement and time to provide really adequate treatment in the patients' homes, figures of attendances and admissions to hospital will be inflated above basic figures of real need.

The major cause of fragmentation of the health services is the high specialization in the medical field which has caused the multitude of services for these specialties. To-day, somebody who feels ill must first of all classify the kind of specialist concerned with the part of his body paining him. Then know the right place in town where this specialist is and the right time to be able to go to this specialist for an examination. Treatment will start later at home or in hospital.

As for doctors, the general practitioner or the family doctor, due to the frustration, having to work between so many

categories of specialists and hardly treating any patient, feels that he is acting as a "dispatcher" prescribing to the patient the specialist he has to go and see. As a result: overcrowding of outpatients departments in hospitals, long waiting lists and as Dr. Scudder Winslow, head of New York's Roosevelt's Hospital Emergency Service says: [10]

> We've simple become a substitute for the family doctor. Across the land emergency rooms are treating everything from wax in the ears to the common cold.

PLANNING: [8]

> The decision to build hospitals has often been affected by considerations other than actual health needs: philantropy, local pride or even political pressures.
>
> But in this complex society we cannot run the risk of having no co-ordination or plan for consistent and adequate growth. All social institutions and professions, all business and government organizations are in the process of adapting to the changes generated by population movement and growth, specialization and the rapid accumulation of knowledge. (...)
>
> Even nation states have had to seek for new organizational forms to meet the challenges of an increasingly complex society.

A look at the distribution of hospitals in Montreal area points out immediately to the inadequate location of most hospitals with respect to the population densities.

The responsibility or the direction and co-ordination of these effective bits of services should be leading to a pooling of activities and specialities in one institution that undertakes planning on a much broad basis than in the past and which consists of all kinds of experts from ordinary citizens to medical advisers,

urbanists, architects, psychologists, sociologists, financial advisors.

DELIVERY:[23]

> A nation on its way to the moon can overcome the barriers to good health care suffered by the woman who must, to get a doctor, walk five to ten blocks to the nearest bus line, then change buses and pay two or three fares to get to the hospital, then sit for four hours in a clinic waiting (and sometimes forego a day's pay). Failure to deliver services resulting in isolation, the absence of hospitals and clinics - impersonal scattered services - ignorance and lack of understanding of preventive measures, of symptoms and available treatments - misuse and underuse of our resources and above all high costs - these are the health hurdles before us now.

The lack of planning has resulted an uneven delivery of services. Some hospitals in the city have their outpatients department crowded while others do not. This is due to the degree of accessibility of the hospital by the patient. Crowding has the immediate result of long waiting lists which in turn results in the following:

1. Unefficiency of the sophisticated treatment administered in some cases when it is administered in a late phase of the disease.
2. Critical situation in families. The father and mother are working, who is going to lose his day taking the sick child to the hospital ?
3. Loss of money. Production in the job and expenses for transport and drugs.

The main object in the delivery of health services is to facilitate the accessibility to it so that any situation of

illness can be cleared out with the minimum loss of time and the minimum disturbance in families. And any solution must help this goal to be reached.

POTENTIALITY:[II]

> The practitioner has nothing to lose by sending his patients to hospital, in fact he gains time and yet it is clear that the chief way to reduce pressure on the hospitals is to facilitate by every possible means the treatment of patients in their homes.
>
> The raising of the general practitioner from the slough of frustration and overwork into which he has been forced is the first step in the reconstruction of the hospitals for it would then be possible to determine what the real hospital needs of the population are, for the present demands contain an element which is fictious.

This fictious element is the large number of patients visiting hospitals that could be treated by other services such as the general practitioner or other agencies which leads curves of statistics to false peeks and consequently encourages the building of new hospitals pushing the nation into exhorbitant expenses which breaks down the financial government health budget and weakens its huge potentiality, while the real need is not necessarily for hospitals.

Also the heavy load of visits to hospital weakens the potentiality of these outpatient department due to a concentration of load on the doctors.

ACCESSIBILITY: The weakness in potentiality has given result to the easy accessibility of beds in hospitals due to the quick and unaware decision of the patient to go and see the doctor causing many doctors references of patients to hospitals for observation and diagnosis. These patients occupy beds and increase the load

on the auxiliary services, laboratories and X-rays. The final result of this chain of facts linked each one to the other is that some patients are sometimes (out of the doctors' will) kept three days in a bed waiting for their X-ray to be done, while other persons suffering from real illnesses and hardly needing an operation are obliged to wait for an empty bed.

An intricate situation where a step towards an improvement: "Meeting the needs of a population by an increase in beds quantitatively speaking" results in a deficiency to meet the needs of this same population regarding the need to hospital beds. This is due to two factors: namely: Education and Classification of Beds.

EDUCATION:[8]

> (...) It should also be reiterated in this context what we have said of the individual's responsibility "to observe good health practices and to use available health services prudently. But here again he needs the help of health agencies to determine scientifically what good health practices are. It is the task of health education - another function of the health agencies - to interpret to him these findings in a manner which he can understand and is likely to accept. Among the good health practices are personal habits, healthful recreation, maintenance of physical and mental fitness and healthful nutrition. The activities of the Welfare Branch of the Department of National Health and Welfare under the Fitness and Amateur Sport Act* are intended to provide Canadians with the knowledge and opportunity of activities to promote fitness.

Education can be considered effective only on the assumption that it reaches the majority of the different layers of the population within their communities according to an

---

* C-131, Fourth Session, Twenty-Fourth Parliament, 9-10 Elizabeth II, 1960-61.

organized planning and by having intermediate information units between the citizens and the hospitals in every community to avoid the direct contact patient-hospital which is creating to-day a chaotic and a non intimate situation in the emergency and outpatient departments of the hospitals.

It is true that medical professions and other health organizations have stimulated the people to the merits of regular examinations and early consultation but if we consider each one of them separately what are the unknowns to be solved? As for regular examination, the difficulty is in requiring a medical visit from non ill persons. As for early consultation, it is hard to delineate the range within which a consultation might be considered early.

MAINTENANCE AND PREVENTION:[10]

> In 1964 The Lions Club and the National Society for the Prevention of Blindness have taken on the task of running mass screenings for glaucoma. This is admirable but how many people have even heard of such screenings, much less taken advantage of them ? Let's glance at the records.
>
> In 1964 screenings reached a total of only 172,105 people in the entire United States.
>
> Something more than our present method is obviously needed.
>
> (...) At the moment according to the National Society for the Prevention of Blindness there are 1,350,000 people in the United States who have glaucoma, but half of them don't even know it.

About diabetes he says that:

> Despite this godlike gift from two dedicated young Canadian doctors Banting and Best, who discovered insulin in 1922, there are to-day 1.5 million people in the richest country in the world who do not even know they have diabetes.

If there is no law that enforces anybody to have a regular examination why should a man lose one day's job for going to a clinic to be examined ?

It seems to appear that unless a regular general or specific examination is ordered by law for the sake of the population, people are not aware of the dangers they are encountering by their continuous unawareness and partly because they have been beyond the reach of information.

SCHOOL EDUCATION:3

> All national systems seems to be underdeveloped as regards to child psychiatry. Hospital wards and most of all child and youth guidance clinics for ambulatory advisory activities are badly needed. Russian authors very often state that ephebiatrics is a neglected medical discipline and they are right in saying this.
>
> If we are to be able to master juvenile and adolescent misdemeanour and deliquency, to promote good social relationship and to loosen the strange motives for escape into alcohol, drugs and other means of "intensive perception" into the artificial world of psychedelic philosophy, I feel we have to do something of this kind.
>
> In the overcrowded collectivism of modern society with its overwhelming "communication possibilities". There are many lonely people who feel and suffer from their loneliness. This is particularly true of adolescents and old people.

An important point is the hygienic and nutritive education in schools. If it was more emphasized certainly hospital visits and patient-days could have been saved. For instance, the emphasis could be by considering hygiene and nutrition a course with an exam for all students.

CLASSIFICATION OF BEDS: The concept of classifying hospital beds is known as "progressive patient care" (PPC). It is a concept whereby patients are grouped in units according to their degree of illness and need for special care, rather than by their disease or category.

A physician points out that 20 per cent of the patients in his acute beds would be accomodated as suitably and more cheaply in a five star hotel.

An American senator, Abraham Ribicoff declares relying on highly competent sources that in 1980, one hospital day will cost $1,000. in major cities like New York.

Harry K. De Witt, president of the American Hospital supply corporation, says: **(see appendix)**

> "It is of major importance that the extended care facility (a design of an extended care facility produced by the office of Mies Van Der Rohe) can be built for 50 per cent of the cost of the conventional general hospital. And the cost of caring for a patient in the facility would be 50 per cent less than the cost for the same patient in a conventional hospital".

In the past few decades, "acute illness" created "the hospital" for treatment. In the future, longer life span will motivate "chronic illnesses" that will create "new pattern of health services" for long term treatment. Hospitals will become more and more inadequate; and these new patterns of health services will evolute parallel to the fantastic evolution in the medical services and techniques.

STATISTICS: [3]

> Much is said of the need for increased emphasis on positive health, fitness and the prevention of illness, but little effort has been made to define and qualify the positive state of health rather than the negative state manifested by illness.

> Another area in which data are limited and where new work could usefully be initiated is at the individual and family level in order to determine not only unmet health needs but the extent to which individuals and families receive various services. The latter can only be measured adequately at the point where such services are actually received.

Statistics clear up the situation in a specific area related to the public health and the figures resulting from these statistics will help two things:

1) Predicting: by comparing a minimum of three points to find the curve variation.
2) Programming: according to the figures and considering the predictions, to find out the needs for the satellite clinics, the geographic and architectural analyses.

What is the relation between satellite clinics and statistics ? The community defines its needs to the authority which will study the project necessary to meet these needs.

If we isolate the components of any future project, architectural or any other, we find the following:

Assessment of the requirements

↓

Source → Statistics → Analyze → Planning

↓

Programming

The source should be fully aware that filling a questionnaire is not optional, it is compulsory. A zero means a quantity in statistics but an x or a blank does not mean anything, and is another factor of error in the final analysis.

EVALUATION: The very important phase in a situation is the evaluation of its different problems. Evaluating a measurement with a false scale gives a wrong measurement which leads to unappropriate solutions. For instance, considering the physician/population ratio,[12]

> In 1950, South Dakota had (1 to 1,400); life expectancy was 68.4 years.
>
> In 1964, the District of Columbia had (about 1 to 280). It had this same year the highest rate of neonatal mortality in U.S.A.

In the United States, the physician/population ratio is therefore not a valid index of the medical care adequacy.

The correct evaluation of a situation is possible if two conditions are fulfilled:

1) A record kept for every person, the normal and the abnormal concerning the medical history.
2) Assigning a health institution for every community to have an efficient evaluation from within the community.

These two conditions will help effectively in solving this problem that I am dealing with in my study by establishing the measurements criterias for the creation of a satellite clinic in a community.

However, other data from the agency's records, such as average time required per visit of different professionals can further refine the estimate of the need.

Dr. Arthur Engel says talking about Sweden:

> In fact the establishment of a national data bank of medical life-time records of the citizens which would include the medical history of every individual is under discussion in my country. It could be of a unique value for medical and sociomedical studies and surely also for the health planner. I am afraid

> however that amassing such an astronomical amount of factual information and personal opinion would be difficult to handle and that "too much of it would be left untouched by human mind" to use Sir George Godber's words.

OLD AGE: With the extension of life span and the low infant mortality, due to the evolution of modern biomedical research and the new medical techniques, we have in hands the two ends of this long span the neonatal at one end and the old aged at the other.

In all the previous items, I have analyzed various components of the health structures and its institutions. Now I shall try to consider the other end of the span: the old aged. Old people are handicapped by many factors:

a) With the lengthening of life span, there is a lot more chance for them to be chronically ill.

b) Since they do not work, they have less money to pay for their health maintenance and treatment.

As for the assistance they can get from their children, this is what Dr. Salomon Geld of the Daughters of Myriam Home, a well known figure in the field of elderly, says:

> "Fundamentally, we like to think of our parents as assets. The moment you have to support your parents, your attitude changes".

This is an extract from Roul Tunley's book:

> Of all America's sins to the elderly, however, none is more deadly than the institutions we provide for those who no longer can care for themselves - the so-called nursing homes for the aged. Such places are a necessity in the modern age of the small apartment and the working mother.

> Dr. Millon Roemer of the University of California who has studied these places in many parts of the country calls them "a disgrace".

The forecast of 9 million people aged 65 and over by 1991 in Canada points to the necessity of planifying programs for old-aged people in the nearest future.

SCREENING: II

> Medical practice of to-morrow will comprise much more social medicine and much more psychology and psychiatry. Increasing investments in medical, psychological and sociological research should be foreseen.
>
> Governments will realize that this means exercising preventive medicine in its highest potenty, the key to a better health and a more dignified life in a turbulent epoch.

People are becoming more and more aware of their health and consider it their main asset to reach their goals in life and benefit from the many interests that modern technology is offering them. Assuming this statement fully true, it becomes necessary at this point to meet the needs of these people.

What is the way of meeting the needs of people to remain healthy ? The solution implies two systematical steps:

1) To pick out all the physically and psychologically abnormal cases from the communities for treatment. When we mention all, it means without exception.
2) To establish a certain safety pattern that helps people to feel always moving within the limits of this pattern; a pattern scaled to their needs.

Both could be attained by a screening program in the satellite clinics. What is screening and to what extent can it be used as a public health measure ?

Dr. Arthur Engel explains mass screening as follows:

> The term "mass screening" indicates the screening of whole population groups where in principle no selection is made. The main purpose of this procedure is to sort out individuals with "a symptomatic disease". I mean a disease without symptoms but in which signs can be demonstrated. This condition is however in practice, more or less a fiction even if every disease is likely to pass through such a phase. The intention is not primarly to arrive at a diagnosis. The main object is to detect suspected illness among apparently healthy persons and bring them under closer medical examination.
>
> Screening tests could be carried out by less trained personnel and should be automated as far as possible. Electronic data processing has made it feasible to collect and compile huge amounts of information for statistical purposes at reasonable cost and with less personnel than earlier.
>
> Mass screening can either be aimed at detecting disease in general and is then a multiphasic (multiple) screening combining a number of tests, or it can be selective in respect of a population, an organ or a disease.
>
> Selective screening is much easier to handle, it has at least partly passed the experimental stage and is fully accepted by the medical profession.

CHAPTER II

SECTION B:

(ii) Public health systems in different countries and in Canada

The three main objectives in looking on the health systems abroad are:

1. To see if the other countries are facing the same problems of rise in the hospital care costs and increased demand for hospital services.
2. To study the reactions of the foreign countries to this problem.
3. To pick out any experiences in new fields and combine them to our actual system and discover what is considered by other nations as a model for an ideal pattern of health care distribution possibly going beyond the communities to individuals.

The following three systems are taken from a book written by Roul Tunley and entitled "The American Health Scandal".

GREAT BRITAIN

There is nothing that describes the public health system in England better than these words by Charles Rogers of Washington, D.C., an ex-journalism teacher and government worker. He took his first trip to Europe after retiring and had a minor coronary occlusion while in London, he was hospitalized and treated and when asking for the bill he was asked nothing by the hospital either for bed, board, nurses, X-rays,

tests, physical therapy, or anything. His entire illness had cost him nothing.

So when asked to summarize his feeling about the National Health Service in Britain, he found no difficulty in saying:

> "All I can say is that if you should ever have the misfortune to have a heart attack in a foreign land, I can recommend England unreservedly as the place to have it."

This points out immediately the good efficiency of the British system judged by an American citizen.

Actually all three political parties including the Conservatives, back it, as do all major medical associations.

The way it works is as follows: every able-bodied worker must pay a weekly fee toward a complete social security package, as must the employer. The only people exempt from this are children, housewives and old people. Out of the total social security payment, the average person pays about $30. annually toward health care. This pays only about 16 per cent of the total bill. The rest is paid directly out of taxes on such things as cigarettes, liquor, income, etc. "What government has really done" explained an official "is to force people to pay some of the money they normally spend on liquor and cigarettes toward their medical care". In return a Briton gets almost total medical care free at the time of service.

To get this he selects a family doctor, or general practitioner from the list in his neighborhood, signing up with anyone he chooses. He can change doctors whenever he likes.

The general practitioner serves him and his family as long as everybody is willing (including the doctor). The British believe strongly in the efficacy of family doctoring, and half the physicians in the country (roughly 21,000) are in this category. It might be noted in passing incidentally, that one out of every three doctor visits takes place in the home (a comfort that has almost disappeared in America). Whenever a patient needs diagnostics or a specialist, he is sent to a hospital by the family doctor.

A few items are extra. Prescription drugs costs 28 cents, no matter what the item. Dental examinations are free, but a course of treatment costs $2.80 and dentures are extra. Children and pregnant mothers receive all dentistry free as they do eye care. Although eye testing is free to adults, there is a charge for glasses. Organizationally, the whole thing is under the Ministry of Health. It is divided into three parts:

1) Hospitals and specialists. In general hospitals are run as they have always been run by a voluntary board of trustees. They are the community leaders, and one quarter of them are doctors. Few directives are issued by the Ministry, except of course for the budget. All hospital specialists are salaried, but with "incentive" payments the figure can go quite high.

2) General practice. This is run by 120 executive councils, half of whose members are professional doctors. They channel the money from the Ministry to the physicians according to an amount contracted for. Doctors are

paid a flat fee for each patient on their rolls but there is a limit of 3,500 patients. The average is usually under 2,500. 3) Home care. This is run by counties and towns, and includes Britain's highly developed home nursing services. There is, for example two thirds of a home nurse for every family doctor in the country. Included in this category of home care are also maternity and child health clinics, mental after care services, ambulances, etc.

No one is obliged to use the National Health Service, but about 98 per cent of the population is enrolled.

Flexibility is perhaps the strong point of the entire British medical system. It is certainly evident in their handling of the aged. Medical care is completely free for older people, and because Britain has highly developed home services and outpatient facilities (as well as family doctors who still make lots of home visits) this segment of the population is kept away from expensive hospital and nursing home care as long as possible. This saves the government lots of money.

Because of the apparent high cost of the program a study was done by Drs. Richard Titmuss and Brian Abel-Smith, of the London School of Economics, that proved that England was underspending for medicine, in fact only 3.5 per cent of its gross national product. Soon after the report appeared, Great Britain undertook a vast hospital building program. The percentage of the gross national product now being devoted to medicine has climbed to 4.5 per cent, and is going higher.

Summarizing the main characteristics of the British system, we notice:

1) The large proportion of general practitioners which helps greatly to control the demand for hospital treatments;
2) The referring of patients to hospitals by G.P.;
3) The large proportion of home nurses which helps to maintain the patients in their homes instead of being hospitalized;
4) Day clinics for treatment, chronic and psychiatric, which help people to be treated during the day and sleep at home by night;
5) A plan under study to send mothers back home at very short periods after delivery thus saving for each baby born many days of hospitalization. They will be cared for by midwives or the family general practitioner.

The results of all these improvements are expressed by an American, Don Cook, the London correspondent of America's leading conservative newspaper, the New York Herald Tribune, he lived in England for some time and received treatment under its health service. When he left he wrote:

> "An American cannot live in Britain to-day and see the Health Service at work without coming to a simple realization: what has been done here by democratic processes in a free society is a great step forward and an object lesson for democracy throughout the world".

SWEDEN

Sweden's hospital program is mammoth. The Swedish people spend as much each year in construction and equipment as England does, and her population (8 million) is less than a sixth in size. As a result, Sweden has the largest number of beds, proportionately, of any country in the world: 16 per thousand inhabitants. U.S.A. has 10.

Like the United States, Sweden relied mainly on voluntary health insurance until social pressures and the leaping costs of modern medicine made a broader-based plan necessary. This plan started ten years ago.

Their plan is based on a universal compulsory health insurance.

At the present time every working person must pay into a social security fund, as does his employer. The employee's medical contribution totals about $75. a year far more than an Englishman's. In return, he and his family have all their hospital bills paid in full, as well as three quarters of all doctors bills pegged to fee schedules. In addition, all prescription drugs like insulin etc. are paid.

Although this is the basic health package to which everyone is entitled, it is difficult to discuss it without taking into consideration the entire Swedish social security set up. Much of the latter is directly related to health.

For example the major part of medical insurance money in Sweden goes for "sickness benefits"

When a person is sick in Sweden he is entitled to financial help after the fourth day of illness. This comes directly out of the social security fund. The sum received is related to his earnings, but it has a ceiling of about $5. a day.

Also they have a bonus of $200. when a baby is born in addition to the yearly cash allowances for children up to 16 years of age.

Moreover child welfare starts long before the infant is born with free maternity clinics everywhere. The mother is entitled to the free services of a trained midwife before, during and after birth. When a child is born the mother not only gets a cash bonus but has her hospital confinement fully paid (almost all Swedish births are in hospitals). Moreover if the mother works she is compensated for the loss of income during pregnancy.

In addition to the annual cash allowance for children there is a free supervision of child's health up to school age. This includes eyes and teeth, as well as about four or five complete physical examinations. When a child starts his formal schooling at 7, the school health system takes over. There is roughly one full-time nurse for every 150 children (in spite of their lack of nurses) as well as regular doctor supervision. Complete physicals are done right in the schools, generally in the first, fourth, seventh and ninth grades. Polio, smallpox, tuberculosis and other immunization are automatic. Finally at the age of 16, the regular medical system takes over. All of this of course has produced a wonderfully low disease rate among

children, as well as an almost complete absence of nutritional defects. (free lunches are included in the school health package).

Certainly one of the happier results of Sweden's setup is with older people. With no fear of medical bills and with adequate old-age pensions people not only grow old with dignity in Sweden but they live longer. Swedish longevity - 76 years - is one of the highest in the world, and they have the lowest infant mortality rate in the world.

Sweden also feels that fee-for-service helps keep hospitalization down. When general practitioners send patients to hospitals in Sweden they not only lose them but they lose their fees as well. For a swedish patient ceases to be a paying one as soon as he gets into a hospital bed. Therefore G.P.s try to keep people on their feet.

Comparing the two systems:

In my analysis here I should point to the main characteristic in the Swedish health pattern: "it is a hospital orientation to a far extent". It is nearly completely opposite to the English system.

The English one as we have seen counts mainly on different organizations, G.P.s, home nurses, day treatment clinics, to treat a large portion of the illnesses. In Britain, the proportion of illnesses referred to hospitals is 5 per cent while in Sweden they rely completely on hospitals.

If we analyse the opposite directions of these two systems it is surprising to learn that they have been created by the same cause: more and more chronic diseases caused by the long life

which can require long, sustained treatment. But the way of thinking was different. British policy was to try as much as possible to go to the patient, keep him at home, and treat him there. Might this be due to the large amount of G.P.s they have ? On the other hand the Swedish policy was to gather the patients in one place. Organize this place perfectly and give them the adequate treatment with the most modern equipment. A mass treatment rather than an individual one. Might this be due to the shortage of doctors and paramedical personnel ? At the moment 5 per cent of all doctors are foreigners and 3,000 hospital beds are unable to be used because there are not enough nurses.

Results show that even in such a good system as Sweden, there are defects. If a patient wants to see any specialist in the outpatient clinic of a hospital, he may have to wait three months for an appointment and when he does go he may have to wait the entire day for a few minutes' examination. For certain types of non urgent operations, things like hernias or varicose veins, a Swede may have to wait several years. But this can be applied to the British system too, there is always a long time to wait for operations that are nonurgent. Comparing the financial involvements we find that the British system is much cheaper per capita $30. annually against $75. a year for the Swedish system. This proves that the British system is more appropriate. "Cheap and efficient".

To complete the analysis if we compare the psychological results, it is much better psychologically to treat a patient

within the surroundings he is accustomed to, unless there are valid causes to hospitalize him, being alone or having bad home conditions, etc.

GERMANY

Germany is the only country in the world to have no shortage of doctors. At any rate, the present ratio is about one to every 611 persons (In Quebec it is 1 to 893). One of the lowest in the world. Because of the generally adequate supply of physicians in Germany, there is not the pressure as there is in Sweden, to handle vast numbers of people in hospital out-patient clinics. Most people, in fact, even those requiring specialist attention, are taken care of in private offices.

The system in Germany was the idea of Bismarck, the iron statesman and master politician who deftly blunted the power thrust of the Socialists by giving his people the world's first insurance against sickness in 1883.

Being European (which is a euphemism for thrifty), Bismarck did not want to involve the federal government in spending a lot of money. Consequently, he set up a scheme whereby the costs are borne almost entirely by the workers and their employers.

To an outsider the German medical care system is difficult to understand. It is all done with insurance societies which the Germans call Krankenkassen (sickness funds).

There are at least 2,000. If a man is a taxi driver, he joins a taxi drivers' sickness fund. If he's a journalist, he joins a journalists' fund. If there is none for his profession, he can join a company or a regional or a government fund.

"Why not one fund instead of two thousand ?" I asked Dr. Rolf Schoegell, the head of the organization. "And have the government controlling our health insurance ?" he asked, "No, sir. We prefer it the way it is - decentralized !"

Sickness funds are non profit. But just to add to the confusion, there is lots of profit making, private insurances too.

In sum Germany's health care is a combination of both compulsory and voluntary insurance. But the compulsory, non profit sector embraces 85 per cent of the population.

However, insurance in Germany is not hedged about with deductibles, co-pays, conditions, exceptions, and fine print that disclaims responsibility for this or that. A German who is insured in any of the 2,000 sickness funds has total benefits:

1) All doctors' bills, specialist or otherwise, are completely paid without any time limit;
2) Total hospital bills are covered for a half year, but may be extended for a full year;
3) Maternity benefits are free;
4) Prescriptions cost only 12 cents each, no matter how costly the drug;
5) Dentistry basic to health is free, with a charge for special things like gold crowns, etc.

6) Rest cures at some of Germany's noted spas are free when prescribed by a doctor;

7) At 65 years of age, insurance payments are taken over by the pension fund and no longer have to be paid by the retired person;

8) An employee is entitled to a cash sickness benefit from the moment he becomes ill - as much as $8. a day. In some cases the benefit is full salary for six weeks, with in addition 75 per cent of salary for as long as a year and a half after that if necessary.

I have chosen these three systems from the book of Roul Tunley to compare, because they are different and I can say completely divergent systems of health care.

In Great Britain we see the importance attached to the G.P. as the main contact for patients and the emphasize on stopping the rush to hospitals.

In Sweden we have a 99.9 per cent hospitalization system, nearly no care given at home at all, every kind of care small or important is given in hospitals.

In Germany we see citizens absolutely unwilling to let the government hold their health systems. These are run by insurance companies and in spite of the multitude of these companies we still see a coordination between them. Everybody is satisfied even having 30 per cent taken out of his wages on payday for health insurance and income taxes.

Now I want to present some specific questions and the answers of Public Health Departments in each of 15 different countries. I shall include only those that I judged the most interesting and pertinent to my subject.

SITUATION IN CANADA

Reference: Canada Year book, 1969

HEALTH

Provincial governments bear the major responsibility for health services in Canada with the municipality, often assuming considerable authority over matters delegated to it by provincial legislation. The Federal government has jurisdiction over a number of health matters of a national character and provides important financial assistance to provincial health and hospital services. All levels of government are aided and supported by a network of voluntary agencies working in different health fields.

1. Federal Health activities.

The Medical Care Act was passed by the Canadian Parliament in December 1966 and became operative on July 1, 1968.

This plan was mentioning that the Canadian Federal government contributes half of the per capita cost of all insured services for every insured person in the province entering the plan and meeting the following criteria.

i) to operate a plan on a non profit basis;

ii) the plan should make available on uniform terms and conditions to all insurable residents of the province reasonable compensation so as to ensure reasonable access to insured services;

iii) the plan must give entitlement to not less than 90 per cent of the total number of eligible residents of the province during the first two years and not less than 95 per cent thereafter.

iv) No minimum period of residence for persons normally resident in Canada but a waiting period of up to three months for entitlement within a province.

2. Health Resources Program.

This program is concerned with manpower in the health fields necessary for the provision of comprehensive health services to Canadians.

The Act established a fund of $500,000,000 available over the period 1966-80. Out of this fund the Government will pay up to 50 per cent of the cost of planning, construction, purchase, renovation and basic equipment of teaching hospitals, medical schools, training facilities for nurses and other health professionals, and research establishments; the costs of land, interest, and residential buildings are excluded.

Of the $500,000,000., $300,000,000. is available to the provinces in proportion to their population.

3. National Health Grant Program.

The National Health Grant Program was instituted in 1948 to assist the provinces in extending and in providing public Health and Hospital Services.

The grants cover: crippled children, professional training, hospital construction, veneral disease control, mental health, tuberculosis control, public health research, health survey, general public health, cancer control, laboratory and radiological services, medical rehabilitation and crippled children, child and maternal health.

4. Hospital Insurance.

Provincial hospital insurance programs operating in all provinces and territories since 1961, cover 99 per cent of the population of Canada. The programs were introduced under the Hospital Insurance and Diagnostic Services Act of 1957, by which the Federal Government shares with the provinces the cost of providing specified hospital services to insured patients. Specifically excluded are tuberculosis hospitals and sanatoria, hospitals or institutions for the mentally ill, and institutions providing custodial care, such as nursing homes and homes for the aged. The total contribution is about 50 per cent of the sharable cost for all Canada, but the proportion is higher for provinces where the per capita cost is below average and lower for the other provinces.

5. Food and Drug Control.

6. Medical Services.

Direct and indirect services are provided. The "indirect" services are provided by hiring local services where practicable. Indians and Eskimos: Much of the service in treatment and health education is rendered to the patients through 34 departmental out-patient clinics and 85 health centres staffed by medical and other public health personnel.

In remote areas, the key facility is frequently the departmental nursing station, a combined emergency treatment and public health unit usually having two or four beds under the direction of one or two nurses. 47 of these are operated throughout Canada.

Northern Health: Because of the special problems in developing health services in the Far North, the Department has been given the responsibility of co-ordinating federal and territorial health care for all residents. In so doing, it undertakes the function of a health department for the Council of the Northwest Territories and assists the government of the Yukon Territory in the provision of certain health services. Hospital insurance plans are in effect in both territories.

Other medical services:

- Compulsory prepaid medical, surgical, hospital and other treatment services are provided for crew members of all foreign and Canadian ships.
- Quarantines control to crew and passengers of different ways of transportation for detection and correction of conditions that could lead to the entry into Canada of different diseases.
- Medical examination of all immigrants.
- Health counselling offered to federal employees throughout the country.
- Routine examination of air pilots and other air personnel by the Civil Aviation Medical Assessment Service for physical and mental fitness for the performance of their duties.
- Enforcement of hygienic standards on federal property.

7. Radiation Protection.

8. Medical Research.

Funds for biomedical research, 1968-69 $53,500,000 compared to $44,700,000 in 1967-68, an increase of 19.7 per cent.

9. International Health.

i) Cooperation with the World Health Organization (WHO) and the other specialized agencies of the United Nations.

ii) Health training provided for a number of persons coming to Canada each year.

iii) Canadian experts in health fields sent on specific assignments abroad.

10. Consultative and Technical Services and Special Programs.

To extend technical and consultative assistance to the provinces and supply consultation and information, advise on health care projects, co-ordinate activities and planning and exercise leadership in promoting high standards of service in all sectors of Public Health.

PROVINCIAL AND LOCAL HEALTH SERVICES

1. Public Health Services

i) Environmental Health: safety of food supply, community sanitation, sanitary conditions in sewerage and waste disposal systems, air pollution, water pollution, radiation exposure and the use of pesticides have become major problems.

ii) Occupational health: setting by legislative acts, the standards for health safety and accident prevention on the job and occupational diseases.

iii) Communicable Disease Control: immunization clinics for the public.

iv) Health Education: partly directed to reducing habits

harmful to health, such as cigarette smoking and the excessive use of alcohol and drugs.

v) Public Health Laboratories: It is done by a central public health laboratory in every province and usually a number of branch laboratories for testing purity of food.

vi) Maternal and Child Health: Public Health nurses employed by the local health services carry out preventive health services to mothers, newborns and children through clinics, home and hospitals visits and school health services.

vii) Nutrition: Consultants in nutrition extend technical guidance and education to health and welfare agencies, nursing homes and other care institutions and hospitals, provide diet counselling also.

viii) Dental Health: Increasing emphasis has recently been given to dental care. Dental clinics conducted by the local health services are very often restricted to pre-school and younger school age groups.

2. Mental Health Services.

New patterns of care designed to cure the afflicted or to provide for them living and working environments that will enable them to lead reasonably normal lives.

Mental health clinics in most large cities and travelling clinics visit suburban and rural areas. Psychiatric hospitals and mental health clinics are established more day care and night care facilities through which some patients receive part-time

hospital care and therapy during the day and go home at night and others go to work during the day and return to hospital in the evening for treatment.

The extension of mental health services into the community is aimed at preventing severe mental and emotional breakdowns and at reducing the number of people requiring treatment in institutions. Patients may continue to live at home and pursue their normal occupations while receiving treatment.

3. Services for specific Diseases or Disabilities

- Tuberculosis:

Community tuberculin testing and X-ray Surveys, surveys of high risk groups. In Quebec and Newfoundland only children are routinely immunized. Treatment, including hospital care, drugs and rehabilitation, is free in all provinces. The success of chemotherapy has generally shortened the hospital stay of tuberculosis patients and facilitated out-patient or domiciliary care.

Number of new active cases of tuberculosis in Canada rose slightly in 1967 to 4,601 or 23 per 100,000 population while deaths dropped to 658 or a record low rate of 3.2.

- Cancer: Deaths from cancer in 1966 accounted for 17.9 per cent of all deaths in Canada.

Special provincial agencies for cancer control, usually in the health department or a separate cancer institute, carry out cancer detection and treatment, public education, professional training and research in co-operation with local public health services, physicians and the voluntary cancer societies.

Hospital insurance benefits for cancer patients include diagnostic radiology, laboratory tests and radiology. The cancer control programs in Alberta, Saskatchewan and New Brunswick also pay for medical and surgical services; elsewhere, some of these costs are covered under the voluntary and public medical care insurance schemes.

- Veneral diseases:

Because of under-reporting, public health authorities consider the real incidence of syphilis and gonorrhoea to be much higher than the official rates. All health departments administer compulsory, free diagnostic and treatments services at public clinics; in areas lacking such clinics, private physicians are paid to provide free treatment. In addition, each province supplies free drugs to physicians for treating private cases. The local health services carry out case finding and follow-up, and assist in treatment and health education measures.

- Alcoholism:

All alcoholism programs engage in public and professional education and conduct studies regarding the nature of alcoholism and related problems.

Seven provincial alcoholism programs extend treatment services, mainly for out-patients, but most have established other types of treatment facilities such as in-patient centres, hostels, and special farms or prison centres for chronic offenders.

Because addictions are widely prevalent in many other fields, the hospitals' mental health services and other public and voluntary health and social agencies are also involved in their diagnosis and treatment.

CHAPTER II

SECTION C:

(i) Questionnaire sent to fifteen nations concerning health systems.*

Questions were sent to 15 countries concerning the methods they consider could supplement the actual hospital care.

The questionnaire was prepared by a research group invited by the Council of Europe in STRASBOURG, 1963. This group was formed by the following:

Director of Research

Dr. Neville M. GOODMAN, C.B., M.D. F.R.C.P., Ph.D.	GREAT BRITAIN

Specialists

Prof. S. HALTER, General Director of Hygiene administration, Ministry of Public Health and Family, Brussels.	BELGIUM
Dr. E. SCHIØDT, Chief of medical service County hospital, Aalborg	DENMARK
D.J. ANASTASSIADES Consulting Psychiatrist Ministry of Social works. Athens	GREECE
M.F. BESKE Regional administrator of social hygiene and medical care	Representative of World Health Organization Europe Bureau.

* Please refer to questionnaire attached in appendix.

The questionnaire is attached to this thesis.

The participating countries were, in alphabetical order:

AUSTRIA

BELGIUM

DENMARK

FRANCE

GERMANY

GREECE

IRELAND

HOLLAND

ITALY

LUXEMBOURG

NORWAY

SWEDEN

SWITZERLAND

TURKEY

GREAT BRITAIN

These are some of the answers picked out that can be related to my thesis.

Question 1: What is the present and future role of the G.P. ?

Norway: The law for social security obliges the patient to be examined by the general practitioner before being referred to a specialist or to a hospital. Except emergency cases.

Also the general practitioner is responsible for the treatment after the patient is discharged from a specialist or from the hospital.

Luxembourg: The Ministry of Public Health controls the adequate distribution of the G.P.s in the rural and urban sectors.

Question 2: What is the relation between the G.P. and the hospital?

Germany: In case of urgency the G.P. refers his patient to the hospital. When the patient is discharged a report with recommendations is sent to the G.P. In Germany, the G.P. except in some cases, treats his patients while they are in the hospital.

Luxembourg: The relation between the G.P. and the hospitals is very close. In some cases he has the choice to treat his patients himself in the hospital and generally speaking he assists in the surgical interventions.

Question 3: Are "day centers" existing in all the hospitals, some of them or the majority, that are providing treatment for:

i - mental diseases;

ii - geriatry;

iii - other sectors, readaptation etc. ?

The answer was negative for nearly all the countries except:

Germany: Some "day centers" were created for mentally ill patients.

Great Britain: i - In 1959 there were in England 36 psychiatric hospitals having day units for treatment. Some of these units are completely independant from the mother hospital.

ii - day centers are created more and more frequently for the geriatric cases.

Question 4: Concerning Home-Care have you an organized system for:

a - nursing care

b - social care

Who is providing this care, the hospital or other public or private institutions ?

All the countries had a kind of home care, benevolent or partly public as for organized and generalized home care system by authorities here are some answers:

Norway: Most of the municipalities have established a home-care system. This system is half paid by the social security funds, the other half being paid by the local community in funds and fees-for-service. The admission to the home-care is applied for by the patient's physician to the local administrative bureau, who decides upon the admission after examining the real needs of the case.

The home-care services system is done to avoid useless hospitalizations.

Great Britain: By-law 25 - 1946 for National Health, home-care should be established by local authorities of public health.

By-law 23 - 1946. The local authorities should have sufficient number of graduated midwives (related to these authorities or other institutions) for assisting the mothers at home - in most cases co-operating with the G.P. - during pregnancy and in some cases after delivery at least as long as the new delivered mother has not recovered. These services are free.

By-law 28 - 1946. The local authorities could, by approval from the Ministry take the necessary steps for the delivery of care needed during and after treatment, and it is compulsory for the following categories: mental disease, tuberculosis.

By-law 29 - 1948 for national assistance. The local authorities should manage the care for blind, deaf, and all the other people with a serious or permanent handicap resulting from illness, injury or congenital malformation. This care is necessary everytime it becomes possible to keep these handicaped persons at home, and to provide them with the appropriate care, to co-operate with the hospitals, the G.P.s, the sanitary authorities, the education systems, for the benefit of all the age groups.

Question 5: Do you have an organized system to provide the home-care patients the necessary medical and nursing equipment

to avoid their hospitalization ?

Great Britain: has imposed some by-laws connected to the by-laws 29-1946 - 25-1946 - 29-1948 to provide the necessary equipment at home. This equipment could be hired with fees related to the patients possibilities.

Question 6: Have you any system of specially equipped places for diagnosis or treatment to avoid hospitalization (health centers, specialized clinics or schools) ?

Belgium: Polyclinics, annexed or independant from hospitals. Examination fees are paid by Social Security.

France: Yes, in outpatient departments, dispensaries (for tracing and prevention) treating dispensaries.

Germany: In spite of the stress on home care by G.P. there is a new tendancy to reconsider the importance of the hospitals.

Sweden: No.

Great Britain: By-law 22-1946. The local authorities should create maternities and dispensaries for child care, diagnosis and treatment in non serious cases and for providing dental care for future mothers, feeding mothers and to less than five years old children, the main objective is prevention.
By-law 28-1946. Some local authorities should assign a chiropodist. Also the school sanitary service (whose responsibility is to the Ministry

of Education) has a major role in this field.

Question 7: Has a survey been done on the number and percentage of hospitalized patients whose hospitalization could have been avoided ?

All the countries answered No, except:

France: Partial ones have been done.

Greece: Yes.

Italy: Yes, by sanitary administrations.

Holland: Yes.

Great Britain: A study has been done in the county of Barrow and Furness. Results have been published under the titles:

The Demand for Medical Care. A study of the case-load in the Barrow and Furness group of Hospitals. By Gordon Forsyth and Robert F.L. Logan (Oxford University Press, 1960, 7s. 6d.)

Question 8: Has a survey been done on the percentage of acute and chronic cases and the length of stay, percentage of different age groups related to the entire population or any other criteria ?

Most of the answers were No, except:-

Belgium: Yes. In hospitals 40 per cent chronic cases in public hospitals, 15 per cent in private hospitals.

Great Britain: Yes.

a) The Demand for Hospital Beds. Results of an Enquiry made in 1962 by Airth A.D., Newell, D.J. edited for "Departments of Economic and Industrial Health", King's College, New Castle

- upon - Tyne, under the auspices of Newcastle Regional Hospital Board, Benfield Road, Newcastle - on - Tyne, 6.

b) Knight (statistician), South East Metropolitan Regional Hospital Board, 40, Eastbourne Terrace, London, W. 2. is the author of a study entitled The Relationship between, Population, Age, Structure and the demand for hospital beds.

Question 9: What is the tendancy concerning delivery, in the hospital or at home ?

All the countries were generally favorable for the delivery at the hospital but the percentage was varying for instance Sweden was 99 per cent while Norway was 85 to 95 per cent, Great Britain 64 per cent.

Question 10: What is the length of stay judged adequate for hospitalization after delivery ?

The "adequate" length of stay at the hospital after a normal delivery was varying. Greece (6 days); Turkey (7 days); Belgium, Holland, Switzerland, Great Britain (10 days).

Question 11:

1. Have you any planning encouraging or diminishing children hospitalization ?
2. Do you encourage mother and child admission ?

The general tendancy was to refer only the ultimate pediatric cases to hospitals because of the diagnostic possibilities due to the adequate equipment for analysis (Laboratories, X-rays, specialists examinations) but Norway, Switzerland, Belgium and

Italy were considering the benefits of keeping the child in his family surroundings as much as possible.

As for the second question the tendency was not to admit mother and child and even in some cases when it was permitted, mothers did not make use of it.

Question 12:

This was a question where all the answers were Yes. The question is:

Do you think that the future tendency concerning mental illness is the very short treatment in hospitals keeping the maintenance within the community ?

Question 13: What is your planning concerning mental illness treatment ?

France: The country is divided into departments, every department is divided into sectors consisting of 67,000 inhabitants. In every one of the sectors a medico-social group operates. This group refers and follows the cases into the different concerned institutions.

Greece: A new pilot-program based on "sanitary centres" (See examples, pages 90).

Italy: About 200 centres of medico-psycho-pedagogy have been created in ten years.

In the third part of this chapter, I want to point to some important experiences in the health field, some of them might be very useful in showing how foreign countries are dealing with this problem.

CHAPTER II

SECTION C:

(ii) Different interesting solutions experienced by various countries.

The following solutions that I have collected from various references show the way some countries visualize solutions to fill the gap between hospital and domiciliary treatment.

These examples helped me to visualize to a certain extent the solution of the satellite clinic. Also they showed me the direction to be taken in the solutions when facing the alternative of creating a system of services around the hospitals. Most of the solutions are taken from the Report of the Council of Europe research mentioned in the last chapter. The references to every solution is indicated by a number referring it to the Bibliography.

FRANCE*

The creation of home care service for the city of Paris by the "Assistance Publique" has resulted in many technical, administrative, financial and psychological problems. The main opposition was from the medical associations which tried to stop the extension of the hospital to homes.

But now this step has banished all the hurdles. The service was mainly planned to abolish waiting lists in hospitals.

---

* Council of Europe (Bibliography No I)
Methods proposed to replace hospital care, Strasbourg, 1963, presented by Dr. Neville M. Goodman, C.B., M.D., F.R.C.P., Ph.D., Director of Research group.

by referring patients from hospital to home. The patients are admitted to home-care on a basis of three conditions:

1) The chief physician of the Department in the hospital should designate them;
2) The family must agree;
3) The doctor chosen by the patient for home-care has accepted the home treatment of the patient.

Also the system takes into account the home condition hygiene, and the psychological and social context. This service is applied in twelve hospitals owned by the "Assistance Publique". The fees are fixed at a daily fee by the Ministry of Public Health and the participation of the Sécurité Sociale to the fees is according to a convention.

In 1961 the total home patient days were 45,466 for 918 patients while for the first six months in 1962, 43,976 for 943 patients. This should have represented in Canada comparing $40. per bed in a hospital to $10. at home around $1,319,280. saving in six months for 943 patients.

The main interest in this activity is not only related to the economy but also to human and social contexts. For the patients the return home and the individualization of care constitute a very important factor for the improvement of their condition.

GERMANY[I]

Health Planification of Duisburg & Krefel cities

The "Gesundheitsamt" in the Federal Republic is directly dependant on the Central communal administration. This "gesundheitsamt" exists in every city. But the most interesting are those of the cities of Duisburg and Krefeld.

In Duisburg, the "gesudheitsamt" consists of many socio-medical communal activities; as for instance medical statistics service, a service for the formation of medical personnel, a medical protection for mother and child and medical schools inspections. Also the health education of the population, and the registration of the medical potential inconvenients. This is feasible through different health centres, and new-born examinations distributed in the city's different sectors, also screening centres for cancer, mainly done in the gynecological clinics in town.

In Krefel the same decentralization of services is applied. Moreover there is a net of private organizations very closely co-operating with the authorities who have organized a very well developed home care service. Every one of these organizations has got its own clients and provides them with different services.

The most important initiative was a service for the distribution of hot food at home according to modern dietetical methods.

GREECE I

Health centres of Byron & Peristeri Districts Athens

Based on the principle of "The doctor goes to the patients or the eligible persons for illness, not vice versa", these health centres are two. Everyone is directed by an employee in the Public Health and many other specialists ((internal medicine, pediatry, dermatology, venereal diseases, ophthalmology, tuberculosis, obstetrics, neurology-psychiatry, etc.) who co-operate to provide to the communities, preventive and medical care, general and specialized, thus avoiding many hospitalizations.

The centres consist also of laboratories, radiology and pathology managed by specialists.

The link between the health centre and the community is mainly operated by public health polyvalent nurses. Every centre takes care of a district of 100,000 persons divided into 6 or 7 sectors. Every sector is under the control of one registered nurse and 4 to 8 assistant nurses. The R.N. is continually in contact with all the families, all the institutions, schools, etc. of her sector. They screen the population and every time a medical examination appears necessary they convince the person to go to the centre and make an appointment with the specialist.

In these two centres, the mental hygiene has been integrated.

Also these centres have many other activities in the community they trace the diseases at an early stage, they

protect mother and child, protect children before and during their studies, orient the families, and perform other epidemiological activities.

All this is free, including the drugs distribution to those who cannot pay.

HOLLAND [I]

Maternity Organization

Holland is nearly the only country in the world to have a very particular organization for "delivery at home". The results are very encouraging, prenatal mortality statistics can prove there are about 240,000 births a year. 75 per cent are home delivered and 25 per cent in clinics. 35 per cent are done by midwives and 64 per cent by doctors. 50 per cent of all home deliveries are done by midwives. Midwives are not used in clinics and maternities, deliveries there are only done by doctors. Medical insurance pays the home deliveries but not clinical ones except in special cases. The midwife takes care of the mother from the beginning of her pregnancy period.

The fees for delivery are lumpsum. They include all the prenatal exams, the delivery and 10 days post-partum care. The last part is not the midwife obligation, it is done by the family helpers, full timers, taking care of the families and all the house duties for 10 days. These are graduated from special schools after theoritical courses during three months as interns, and twelve months training practice. They are able to provide also child care and hygienic and health services too.

They are affiliated to a maternity centre that sends them, by contracts of 10 days, into families with new born babies. All the fees are covered by health insurance, sometimes families participate as a subsidiary.

Actually 48 per cent of the new delivered women are beneficiaries of these family helpers the "Draamuerzorgsters".

BELGIUM I

Home Care Program of St.Peter's Hospital owned by the "Commission d'Assistance Publique de Bruxelles".

- The "Commission d'Assistance Publique de Bruxelles" created in 1957 a home care service. One of the goals was to send back home very rapidly surgical cases having been operated in hospitals.

- This service includes 6 nurses in social hygiene and 20 family helpers. The nurses visit 100 patients a day and every family helper makes the daily duties for 6 houses per day.

- In 1961 more than 360 persons have been given care at home instead of being hospitalized. This was due to the assistance of 36 physicians and the abundant equipment that can

be hired to the participants (beds, sheets, crokery, etc.).

- The coordination with the hospital services is done through nurses of social hygiene attached to the various sections of the hospital. Table*shows the running of this service for 5 years. We note that the cost in any case is below 200 francs belges per day while in a hospital the fees per day varied from 500 francs in 1957 to 700 francs in 1961.

TABLE 25

*HOME CARE-PROGRAM

	1957	1958	1959	1960	1961
Medical fees	645,000	725,000	800,000	900,000	1,098,000
Medical equipment	6,000	8,000	13,000	8,000	3,000
Drugs costs	980,000	1,110,000	1,520,000	1,500,000	1,558,000
Patients transportation	104,000	56,700	155,000	154,000	141,000
Nurses and helpers	1,530,000	1,560,000	1,604,000	2,044,000	2,130,000
Miscellaneous	100,000	100,000	100,000	100,000	100,000
	3,365,000	3,559,700	4,192,000	4,706,000	5,030,000
Number of helpers	11	10	19	20	20
Number of visits:					
nurses	10,860	8,757	8,472	9,831	6,955
family helpers	10,456	10,759	18,576	25,189	25,492
	21,316	19,516	27,048	35,020	32,447
Cost per day	158	182	155	134	155

AUSTRIA II

Program aiming to the decrease of the demand for hospitalization in Austria

The cause of the demand was due to the law concerning medical fees for doctors. These were paid by the "Caisses Maladies" by lumpsum for every assigned patient per trimester. No matter what kind of treatment (injection, visit, one or more etc. except night visits). The result was that the doctors preferred to refer the patient to the hospital when they saw that the patient being in bed will need from him so many home visits.

If the doctor was paid proportionately with the kind of intervention, this demand could have been stopped. But two projects hold my attention in the Austrian program:

1) The creation of treatment centres independant from hospitals, for patients already diagnosed and whose treatment started at the hospital. (These are the cases medically clarified who do not need for the continuation of nursing treatment all the hospital equipment). This is nearly similar to the Mies Van der Rohe progressive patient care units but in this latter case these units are dependant upon the hospital and physically connected to it (building connected to building).
2) For "flue" epidemics, "anti-flue" hospitals have been created. They do not need all the costly equipment as other hospitals. The increase in the number of these hospitals is recommended. These will be very effective especially in very cold countries where "flue" is common in winter.

SWEDEN I

Climatic Treatment

In Sweden they tried to replace some hospitalization by sending patients to other countries with sweet climate. Dr. Porjé, an eminent cardiologist was enthusiastic about this particular method that, he believed, could be very efficient. He mentioned the chronic bronchitis, the pulmonary emphysema, etc. In Nordic cities many people having these diseases are not able to go out of their residences for the whole winter.

In Teneriffe one of the Canary Islands there is a centre for Swedish patients of sclerosis and hemiplegia. Even if their condition does not improve, at least they have the feeling to be better. Which is not negligible from a psychological point of view.

The main advantage in these patients departures is the need for the family members to take a vacation while their sick member of the family is in good hands.

Otherwise these patients have either to be left alone at home while the family goes on vacation or to be transferred to chronic hospitals. In this case Teneriffe is better not only on the psychological aspect but also the financial one. It has proved to be less expensive altogether than the hospital and sometimes the patients are ready to participate in a symbolic fee.

GREAT BRITAIN I

Domiciliary Pediatric Treatment

St. Mary's Hospital,

London

In 1954 a domiciliary pediatric treatment was installed in St. Mary's hospital, Paddington, London.

The district had 75,000 inhabitants, it had been chosen to be near the hospital. The team was composed of:

- two pediatrists;
- three nurses;
- one physiotherapist (part time)

This program aimed to prevent the inconvenience caused by child hospitalization namely:

i - Risks of mutual infection;

ii - Emotive troubles caused by the separation of mother, family and the child;

iii - Discontinuity of medical treatment;

iv - High cost of hospitalization.

Also it aimed to provide an improvement in the education of medical students participating in the program, and in the medical education of nurses and citizens of the area.

It is very important to note here that this program was complementary to the G.P. care and this makes it different from some systems in the U.S.A. to replace the G.P. In all cases, the initiation was the G.P.s. He referred the cases to the program and took part in the treatment and was also responsible for the treatment. The result was on 582 referred cases during

the two first years, 460 were treated at home during the whole period, and 31 were transfered to the hospital for completion of treatment. The 75 others quitted the hospital and passed under the Home-Care governmental program, and 16 were considered not needing any treatment.

Costs cannot be compared directly but roughly speaking domiciliary treatment costs £4, per patient and per week, about £16 per case, against £27 per week and about £40 per case in hospital; a difference of about £24 per case.

SANTA MONICA - LOS ANGELES - U.S.A.*

New Delivery of Food system

One of the delivery of food systems currently being used in modern hospitals is the food delivery system developed by the Helen Flyn Associates of Santa Monica. In Bellflower hospital the kitchen is a cookless kitchen. All food which requires cooking is brought in, precooked and frozen. Foods that are raw such as salads are prepared in the kitchen by employees called food processors.

Each patient's meal is assembled according to his dietary requirements and the plates are transported to the patient floors in refrigerated carts which will keep the meal cold until this patient is ready to have it heated and served. This gives the patient some flexibility in chosing his meal time but if he is

---

* Robert E. Walsh, Your community hospital, 1969 (Bibliography No 12)

not on a special diet he can select from a two choice menu and also decide whether he wants small medium or large portions. The microwave oven brings the food to the desired temperature in a matter of seconds. But still it is served by nurses who know when the patient ate last, how he ate or why he is not eating. This system is interesting because it might help to solve one of the many problems of home care: The preparation of the food for the patients and the delivery of this food to different places in a hygienic way.

U.S.A.

A MEDICAL HOTEL IN BOSTON [12]

It is an 86 room "motel", part of a $7 million housing project under construction at the children's hospital medical center.

The rooms are double rooms and are particularly advantageous in case of children undergoing tests because the mother can bathe and feed the child, freeing the nurse from duties for more seriously ill children. Also the mother provides care which is less traumatic for the child.

In both the in-hospital and hotel self-care units, the cost to the patient has been lowered and the patient finds himself in pleasant surroundings. In some cases, the cost of a hotel room is half that of a hospital room.

Other hotel self-care units are made in other hospitals Durham North Carolina, Pittsburg Pennsylvania, and Boston and the one at St. Louis Barnes Hospital has at its disposal

a solarium, a swimming pool, a restaurant, a coffee shop and a homelike room.

The patient in these hotels lives in a free atmosphere non restricted, and does not need the constant care of personnel.

Also there is the flexibility for a member of the patients family to stay with him.

So far a problem for these units is the lack of coverage for patients in these hotel units by third party payees such as Blue Cross and other insurance carriers.

U.S.A.

PROGRESSIVE PATIENT CARE IN NEW YORK [12]

In New York State a model home care program covering an entire county is being operated by the Rochester and Monroe County organized Health Care Plan.

It started in 1961 and is run by the cooperation of fifteen local social agencies and 550 doctors and serves some 600,000 people living in an area of 672 sq. miles. It is nearly a prototype of the cities of Duisjburg and Krefel plan in Germany.

In Rochester any home care patient can draw from the resources of twenty five different agencies covering every part of his care from medical and nursing personnel to equipment and even he can obtain special diet meals from a service called "Meals on Wheels".

Comparing the costs of a home care bill and a hospital bill, here are some results:

One $ 544.11 home care bill would have been $3,375. in a hospital.

" $ 206.68 " " " " " " $1,210. " " "

" $1,026.73 " " " " " " $5,975. " " "

This explains why the Rochester and Monroe County program cut hospital bills in that region in 1966 by more than a million dollars.

Doctors estimated that the program saved about 22 hospital days per patient or a total of 22,500 hospital/days for the county. 40 per cent of the families are covered by a Blue Cross program that covers 200 visits a year by medical personnel other than physicians.

GROUP PRACTICE IN U.S.A. [12]

KAISER HEALTH PLAN

This plan is a system that can be compared to any other governmental system. It involves a large amount of participants in it. The whole idea emerged when the "Kaiser Construction Company" was building the Colorado River Los Angeles aqueduct in the early thirties in the Majovi Desert. The company having built a hospital of 15 beds for injuries of the labourers on the job, found that the insurance carriers had the injured patients transferred to metropolitan hospitals. Their hospital was not working though it was very well equipped. It was not meeting its costs.

The hospital authorities decided to discuss with the insurance companies and they arrived at a decision: they would be paid by the insurance company $1.50 a month for each worker's

industrial medical care. Coverage was also extended to cover non-job illnesses for those workers willing to pay five cents a day through payroll deduction.

This is what this company started with. A hospital of 15 beds and $1.50 a month for each worker. In 1968 the plan was operating 45 clinics and 19 hospitals totaling 3,500 beds and providing medical care for nearly two million people on the West Coast and in Hawai.

How did this happen and what is the Kaiser Health plan ? First it is very necessary to point here to the accuracy of an american system when it is done on a business spirit and this is the real advantage of the Kaiser plan it is a plan with a business spirit.

This is what Dr. Keene said in an interview in his Oakland-California office. Dr. Keene described his conversion from surgeon to "businessman":

> "Probably the best way to describe it is to say they molded me into the man they wanted. They brought me in here and showed me how a modern industrial organization functions, how the problems are handled, how they get answers. They sent me back to school to learn business administration. Once I completed that, they brought me back here and virtually sat me on the lap of lawyers and executives.
>
> We are able to use business methods because we are able to identify that segment of the population we are serving - our consumers - and to pinpoint where they live, determine what their needs will be and thereby predict what facilities and people we will need.
>
> From our experience over the past 25 years medical economists on my staff have been able to compile some basic formulas. We know for

instance that for every 1,000 new Health Plan members we will need one doctor, two hospital beds, 1.4 nurses, and so on".

This is the biggest advantage of the Kaiser plan, or if I can say of any American system. They are always regarding the smallest detail of the thing they do then the results at the end are very accurate ones and can be standardized as a general rule in some cases. Like finding the exact amount of every need for every thousand patients. And this is what we exactly need for our Public Health Systems, a table showing us our needs in figures.

Another example.

In 1966, the Kaiser health plan membership grew a total of 132,000 new persons. To serve these new people they had to recruit select and train 120 doctors, 200 registered nurses, 600 other technical administrators and clerical employees. They had to provide 240 general hospital beds and their supportive persons.

A comparison between hospital cost per patient-day and other California voluntary non-profit hospitals.

56.06 for Kaiser

63.48 for others

Utilization rate for the hospitals is surprising

Kaiser: 500 days per 1000 members (of general hospital care)

Others: 1250 days per 1000 members (of general hospital care).

This means about 40 per cent less in number.

All these figures point out to one fact: the effectiveness of this plan. Now some technical advantages of the plan.

- The Health plan member can select a family doctor from either the group's general practitioner or from its interns. Once chosen this doctor directs all phases of the patient's care and works with other specialists in the group when necessary.
- No doctors belong to Kaiser. They all belong to one of four independant medical groups which contract with the Health Plan to provide all professional services to Health Plan members. The medical groups are paid a negotiated amount for each Health plan member each month.
- Subscribers pay their monthly membership charges to the Health Plan.

This results in eliminating so many unpredictables in the plan. The work is done on steady sound figures. They know what their income is, what the expenses are, what the needs are, before being involved in the new year program.

- Record of each doctor or the staff contains a notation indicating the level of surgery at which the doctor could perform in the hospital.
- Centralization of all the services in one place. Integration of in-patients and out-patients services, also health plan offices, and medical group offices in the hospital.
- Extensive use of automation: for example in Oakland a patient may take a computerized physical examination and in a little more than two hours have some 50 different health tests

performed. The process is called automated multiphasic health screening.

Its main procedure is as follows:

Appointments for patients are scheduled every three minutes to maintain a steady flow of patients through the health screening laboratory.

When the patient receives confirmation of his appointment he also receives a medical questionnaire concerning his health up to a year prior to his appointment. The patient is asked to complete the questionnaire and give it to the receptionist at the multi test laboratory when he comes for his appointment.

The multi test laboratory consists of 20 testing stations arranged along a circular route, so that the patient begins and ends at the reception desk.

GREAT BRITAIN

PERIODIC HEALTH EXAMINATION COMBINED WITH MULTIPLE SCREENING TESTS*

The main purpose of this study was to examine the problems in carrying out routine medical examinations in general practice. The second objective was that of case finding, that is detecting previously undiagnosed disease, with the intention of benefiting the individual patient, and not with the expectation of drawing any epidemiological conclusions.

Medical care on request by the patient fails to satisfy fully the need of the community: often those most in need of attention fail to get it, either because they do not draw attention to their need or because their need is unrecognized. About 70 per cent of patients see their general practitioner in a year, ... This gap in primary medical care can partially be filled by routine periodic medical examinations. Ideally these should be carried out in general practice.

An alternative to a full medical examination with screening tests is to offer screening tests alone. In this report screening tests revealed 47 per cent of the new diagnosis, however the doctor's presence was necessary for the vaginal examination, if not to take the cervical smear, and the number of abnormalities discovered on this examination alone justified his presence.

---

* Malcolm P. Taylor, M.B., CHB, MRCGP.,Doncaster, The Journal of the Royal College of General Practitioners, Vol. 19, N:92, March 70, page 146.

Periodic health examinations reveal a substantial amount of morbidity, much of it relating to chronic conditions such as obesity, cardiovascular and respiratory disease.

The problems facing general practitioners in offering health checks are those of expense, organization and lack of time.

It was found possible to examine between five and eight patients (average six) on each of two afternoons a week. Each patient spent about 45 minutes at the surgery, about 10-15 minutes of this being spent with the doctor. On average the doctor spent 1½ hour on each session and a further hour a week in follow up, giving a total of four hours a week. Auxillary staff, nursing and secretarial, spent 2½ hours at each session, and a further 8-10 hours of secretarial work per week were required.

The cost in staff wages to run the programme is estimated at about £ 9 per week. The approximate cost for manpower including the doctor's time would be about £15 per week or 25/- per patient. There are no figures available for local hospital costs except for mass miniature radiography which in 1967-68 cost approximately 5/3d per test.

The examinations were carried out between April 1968 and April 1969, in the practice premises on two afternoons a week. Men and women were seen at different sessions. Three rooms were used for the physical examinations and two other rooms for screening tests and clerical tasks. All physical and gynaecological examinations were carried out by one doctor, and

all screening tests, with the exclusion of the cervical smear were undertaken by nursing staff or other auxillary staff. Chest X-rays were taken at the M.M.R. Unit at Doncaster Royal Infirmary.

Six hundred and thirty-seven patients were invited by letters, 436 (68.5%) replied accepting, 410 of these were finally examined (64.5%).

Many other screening works have been done in the United Kingdom other than the above mentioned.

SEIZURE OF SERVICES

A case study of Health Expropriation

The addiction problem is taking such gigantic proportions and growing so quick that it seems necessary at least to mention one example related to this problem, I had the chance to pick from the McGill medical journal volume 39-1970. The article is by Richard KUNNES, M.D. He says:

> In the first 49 days of 1970 there were 34 teenagers and 104 adults who died from heroin usage in New York and the statistics are still increasing astronomically.
>
> All the deaths have occurred in or on the periphery of the city's ghetto areas. St. Luke's Hospital is one block away from the Harlem ghetto. In spite of years of pleading from and negotiations with the surrounding Harlem community, in spite of St. Luke's being a publicly funded hospital, it has remained publicly unaccountable to the community's overwhelming need for addiction services. Though it maintained no addiction program it did have, at least nominally, a Division of Community Psychiatry. The Division of Community Psychiatry is funded to tally by public money and has satellite offices and staff. Even most professional staff within the hospital had never heard of the Division. "Liberated" documents from the Division reveal that the Division has contracted out its services to the city police department to "... enable them to function better..."
>
> (...) Not to single out St. Luke's as uniquely culpable, the situation is much worse than that elsewhere. Most hospitals don't even pretend to have a Division of Community Psychiatry - good, bad, or otherwise.
>
> (...) The police as well as the medical-industrial complex has little or no stake in the implementation of addiction services or addiction removal.
>
> The situation has reached such crisis proportions that mothers in some ghetto communities have formed vigilante committees to shoot on sight major heroin suppliers.

In the South Bronx at least one supplier per week, on the average has been gunned down by enraged community members literally defending the lives of their children. The VERA Foundation of New York City has compiled statistics showing that two-thirds of all crime committed in New York City is drug related. There are at least 100,000 heroin addicts in New York City alone, on a heroin habit costing an average of forty dollars per day. To make forty dollars a day an addict must steal two-hundred dollars worth of goods a day, 365 days a year. This computes out to well over 7 billion dollars per year, not to mention the cost of police enforcement and insurance premiums. Seven to eight billion dollars a year is more than many countries' national budgets and this in our case is the cost of heroin for 100,000 addicts in one city of the U.S.A., New York.

On January 13, 1970, about 50 black, brown and white members of the community, as well as physicians and other health workers from the Medical Liberation Front (myself included: the author Richard Kunnes) invaded St. Luke's Hospital. We seized and occupied all the offices of the Division of Community Psychiatry set up walk-in heroin detoxification and rehabilitation units and demanded that the hospital, as a publicly funded health institution, turn over 120 of its 800 beds to the community for community relevant services, i.e. addiction programs.

(...) Once we were able to establish and maintain security in our occupied areas, Medical Liberation Front people quickly taught community people how to detoxify heroin addicts with thorazine. (...) This teaching effort rapidly de-mystified the role of the physician, and also demonopolized his skills by transferring them directly to the community. From that point on, the only time doctors or nurses were needed was when severe vomiting occurred in which case injectable medicine was used. In the 3½ days we held the building a doctor or nurse was only needed once for the one severe case of vomiting.

Rehabilitation and education programs were carried on by a group called ABLE (Academy for Black and Latin Education) ABLE is a "street academy" i.e. a school run by and for ghetto people in a store front operation.

Fortunately we had wide press and television coverage which served two purposes:

1- It let addicts know that there was a program for them in their own community. The hundreds of addicts who appeared in our area of the hospital for detoxification and rehabilitation confirmed our worst fears about the depth and breadth of the problem. It also confirmed that we were performing a needed, indeed desperately needed community service.

2- The other purpose was to put the pressure of public opinion against the hospital administration, which in itself served two purposes: One, the hospital was made extremely reluctant to call the police to have us removed and arrested.
(...) The second purpose was that as the community became galvanized as a result of media coverage the hospital felt increasingly pressured to meet the community's demand for addiction services.

(...) The power relationships between the hospital and the community and those who represented it in the occupation, were more than equalized, thus leading to "rational and reasonable" and relatively prompt negotiations.

(...) The final settlement was an arrangement of 40 beds for addiction services as well as a satellite addiction service building in another part of the community.

(...) Health policy decision making would be made on a decentralized basis by locally elected community health boards made up of consumers and workers from that particular community. All money would be funnelled through the council and dispensed as they saw fit. Presumably, those communities with drug problems would fund programs dealing with those problems, rather than, say funding programs in heart transplantation. (...)

CHAPTER III

PROPOSED SYSTEM

"THE SATELLITE CLINIC"

CHAPTER III

SECTION A: STRUCTURE OF THE CLINIC AND ARCHITECTURAL ANALYSIS

(i) - Units:

THE GROUP PRACTICE UNIT * 26

The simplest definition of group practice is one based on that used by the British Ministry of Health "A group shall consist of at least three principals who may or may not be in partnership. All members of the group must work in close association from a common main and central surgery... They must also employ auxiliary staff to the extent of at least one person who can provide services of the secretarial, nursing, receptionist or almoner type".

In my case of the satellite clinic, the group practice unit forms the core of the whole project. It is the main purpose in the creation of such a satellite clinic because it serves the accomplishment of my thesis goals that can be summed up in the following:

1. Transfer of the centralized high load on the outpatients departments in hospitals to decentralized loads proportionate to the communities needs thus reducing the waiting lists.
2. Formation of a first defence line arount the hospitals to screen most of the admissions to the hospitals and thus reduce the consequent expenses related to useless length of stays. The first defence line will be a group of physicians including mainly "general practitioners" to diagnose the condition of the patient and judge to what extent does this patient physically need hospitalization and under what category of specialization in the hospital ?

---

*26 is the main reference III in the analysis of this unit.

3. Reduce the financial losses to the gross national product resulting from the many hours lost in the O.P. clinics waiting area by the citizens.

   This reduction will be achieved by three factors:

   a) Decentralization of load causing lighter pressure on health services, resulting in less waiting;

   b) Reduction of the distance to be covered by the citizen to go to a hospital. Less expense for the patient, less time to wait, less production loss;

   c) The possibility of achieving a home treatment equivalent in efficiency to the hospital treatment that will reduce about 60 per cent of the expenditures on a patient-day in a hospital. (See page 93).

4. The very important psychological effect on the patient resulting from the familiarity of faces when going to a group practice community clinic rather than to an out-patient department in a hospital.

   In the former he knows every person in the clinic, he is familiar with them and they know many facts about him without any need for family investigation.

   - Scale of the patient is proportioned to the unit (See page 43)

   - Position of the patient is in the centre of gravity of the situation (See page 44). He is the point of attraction for the doctor and the medical personnel because they have time to consider his case due to the non-routinization of the system as part of a big system, the familiarity of faces

causing a feeling of confidence between doctor and patient and the reduced number of patients for the doctor.

5. Maintenance of community health by new systems of screening to detect diseases, and periodical examinations for the maintenance of individuals in healthy condition.

The importance of the group practice unit for the satellite clinic is vital as it serves positively its goals. It becomes important to study the complete anatomy of the unit and the facts related to it.

The existence of general practitioners in the group practice unit responds to the fact that: one tenth of all the work in general practice is concerned with serious illness, about a quarter with "chronic illness" while nearly two thirds is concerned with "minor illness", and possibly these two thirds will be taken care of within the community.

It has been suggested that a general practitioner with an urban practice of 2,500 patients may see between 30 and 40 patients a day in his consulting room. But these figures would vary considerably with the area and the individual doctor.

A general practitioner in Britain probably carries out more home visits to patients than in any other country. The average is approximately ten visits a day.

The work of each practice varies according to the type of patient dealt with. One with a high proportion of old people does not have the same needs as one where mothers with young children form the largest group. In the same way the social background and occupational hazards of the patients affect a practice. The requirements of a farming community are different from those of a mining community.

ARCHITECTURAL ANALYSIS

RECEPTION AREA

The system that I propose for the group practice unit is an appointment system by which the majority of the patients present in the clinic will be on appointments prepared in advance. But there will be still some of the patients coming by themselves without any appointment.

Probably a high percentage of the patients coming without appointment will be cases of repeated prescriptions or to fix a future appointment or enquiring about the type of specialist they need. This gives the following results concerning the physical arrangement of this area.

1. Having an appointment system means that the medical record of the patient has to be prepared to be delivered to the doctor before the patient arrives.
   This shows that the reception area should have either a direct communication system with the medical record unit (Pneumatic, dumbwaiter, railway) or have a direct access to it.
2. The possibility of having some personal private questions to ask the receptionist by non appointed patients points to an arrangement for privacy in the reception area by having a small office to receive the patient in and listen to his enquiries. This means two personnel, one receptionist and one enquiries, or to have the receptionist separate from the waiting area so that patients sitting in the waiting area do not listen to all the discussions of the receptionist with other patients.

I propose the first solution because I feel that the receptionist should be in direct contact with the patients because she is the first person that they know in the unit, and she is familiar with all of them. She needs to be in the waiting area to be a reassurance for the patients in their anxiety, occasionally talking with them, and also because she has to control the waiting area.

Functions: of the reception area are:

1. Reception of patients and other callers;
2. "Filter" approaches to doctors;
3. Supervise patient call-system;
4. Deal with personal and telephone requests for appointments;
5. Processing collection and distribution of records;
6. Handle personal problems (repeating drugs, personal enquiries);
7. Routine administration.

Procedure: The patient is referred to the telephonist of the group practice unit, she enquires about his needs and refers him to the secretary who fixes an appointment. When the appointment is fixed, the secretary prepares an appointment list for every day and sends it to be typed by the typist, then refers it to the receptionist at least two days before the date to give her time to have the records in hand when the patient comes. At the same time, the secretary sends a requisition to the medical record unit asking for the chart of

patient X. The chart when sent to the group practice unit is received by the receptionist who has it ready for the visit. This chart could be sent to a doctor's office by a mechanical railmoving system connecting the receptionist desk to a doctor's office or by any other system.

When the patient arrives, the receptionist is the one receiving him, she notes his name down in her record book and seats him in the waiting area.

Total staff: for 10,000 patients, it would require four or five,

- receptionist and record processing
- telephonist
- secretary
- administrative staff (typist, etc.)

Area: As a rough guide the British allow 20 sq. ft. per 1,000 patients which seems small.

Planning: 1) The reception counter must be in a position to control the entrance (and exit) to the building and the passage to the doctors' offices. Also it should be within the waiting area for supervision and familiarization with patients.

2) The telephonist is independant, she receives two types of calls:

a) a call for an appointment or enquiry, which she refers to the secretary;

b) a personal call for any member of the staff.

3) The secretary deals with any kind of appointment,

telephone or personal. She organizes the doctors' schedules and gives the daily list to the receptionist. Her office is in direct connection with all the parts of the reception and as close as possible to the doctors' offices.

4) The typist does the clerical work of the office. She types the lists, letters to patients, medical charts, etc.; her office is directly connected to the secretary's office or could be within the same volume separated by a partition.

Furniture and equipment:

- Receptionist counter, filing cabinet;
- Telephonist desk;
- Typist cubicle: desk, shelf, cupboard;
- Secretary's office: desk, filing cabinets, cupboard, two armchairs for personal appointments.

WAITING AREA

The relative position of the waiting area and reception desk is determined by the patient-call procedure.

In the case of an appointment system it is better for the patient to be called by name by the receptionist as she is the only person to know if the patient is present. She controls his entrance to the doctor's office, and makes sure that her instruction has been heard and acted upon, after the demand of the doctor for the next patient.

The size of the waiting area is determined by the system applied.

For a practice of four doctors serving 10,000 to 12,500 people some 50 to 60 seats might be required without an appointment system, but with it, the number of seats could be reduced to 20 or 25 for 10,000 people.

Functions: 1) Patients to await call to doctor (or nurse or health visitor);

2) May serve for occasional lectures in health education.

Area: When the number of seats has been fixed, the area may be based on 10 sq. ft. per seat but to allow for leg room and circulation, the British Ministry of Health has adopted for outpatient waiting spaces, 15 sq. ft. per seat, or 120 cubic feet per person. There is little research based information on this subject but it is generally considered that six feet between facing patients is sufficient to avoid

infection (unless germs have extra momentum from coughs and sneezes).

If the reception counter opens directly into the waiting space, then an additional area should be allowed for patients occasionally queuing at counter, something in order of 40 sq. ft. will be required for an appointment system.

Planning: Most patients while waiting are in a state of suppressed tension and this state, if allowed to persist, may well render ineffective the doctor's efforts to get a thorough history. It is therefore important to avoid a clinical or institutional atmosphere in the waiting area and to encourage the patient to relax as far as possible.

The patient when leaving the waiting area to go to the doctor's office should be seen by the receptionist.

A good ventilation is recommended but no air draughts.

Also as much as possible an open atmosphere in the waiting area, possibly to be able while sitting to see some flowers in a patio or a nice view.

Furniture: - Comfortable seats;

and - Tables;

Equipment - Magazine shelf;

- Notice boards;
- Patient call indicator;
- Diversions (paintings, fish tanks, flowers)
- A children area in case of a paediatric practice provided with toys, blackboards, playing floor, children book shelf.

CONSULTING ROOMS

It is very essential for every patient to give a history of his illness. It is in fact the most essential part of the diagnosis, that the doctor knows what happened, when and why. The doctor may need to encourage the patient to volunteer personal information, therefore absolute privacy is essential.

Functions: 1) Doctors take history, advise, prescribe, write up records;

2) Doctors carry out certain investigations
e.g. (a) eye tests; (b) dressed examinations: ears, blood pressure, pulse.

3) Doctors occasionally carry out minor treatments, e.g. syringing, injections;

4) Doctors store personal instruments and records, some common drugs (often samples) and books.

Procedure: The patient comes in, the doctor is seated at his desk. If the patient is accompanied by a relative, they both sit opposite the doctor on armchairs.
The patients starts telling his history while the doctor writes down notes, asks questions.
Then when the doctor needs to carry out his investigations he asks the patient to move to a chair at his hand's reach, near his desk. Having finished the consultation period he asks the patient to move to the examination room and undress for the physical examination.

Area: 100 sq. ft. to 120 sq. ft. approx. as a minimum.

Planning: The doctor should watch the patient entering. The first impression of a patient on the doctor might help him to detect a certain specific illness from symptoms on physical attitude and aspect.
When the doctor investigates, the patient or the doctor might need a washbasin; it is necessary to provide the consulting room with a washbasin and have all the supply of disposables adjacent to it and have it easily accessible by patient and doctor.
The requirement for privacy, however seems to indicate that history taking spaces should not open on a waiting area but on a common circulation space; an argument re-inforced by the need to allow a distressed patient to leave without encountering other waiting patients, so the exit from the consulting room should not necessarily lead back through the waiting room. As for the receptionist to know that the patient has left, the doctor rings her a signal to call the next patient.
It is an advantage to have:

- Direct access to the examining room.
- Some spotlights over the patient chair for any investigation inside the mouth or inside the ears.
- Absolute privacy must be provided and good acoustical isolation from outside noises. In case of noisy street, double glazing should be provided.

- Various circumstances may require blinds or obscured glass to avoid glare and ensure privacy.

Furniture and Equipment:

- Doctor's desk and chair, (better always to have a raised edge on threessides of the desk not on the sitting side to avoid some cylindical instruments to roll and fall on the floor during a consultation.
- Patient's chair.
- Two armchairs for patient's relative.
- Washbasin.
- Shelf for washbasin.
- Storage for disposables.
- Cupboard for stationery, etc.
- Bookshelves.
- Spotlights for patient's chair.
- Work top - storage under.
- Acoustical treatment (ceilings, floors, doors, windows).
- Curtains or blinds for privacy.
- Decorative items (flowers, paintings, etc.).

EXAMINING ROOMS

The physical examination follows the history taking of the patient and can be performed in two types of arrangements:

a) a separate examining room;

b) a combined consulting-examining room.

In my case I shall analyze a separate examining room. Examining rooms have been divided into two types, either with patient seated and dressed or with the patient lying on a couch either dressed or undressed. For instance an ophthalmologist will not need to examine his patient undressed. It is common to have the seating examination done in the consulting room while any lying examination should better be performed in a separate private room which need not be used for all patients.

Functions: 1) Patient undressing.

2) Physical examination of the patient.

3) Occasional minor treatments.

Procedure: After consultation, the doctor asks the patient to enter the examining room, undress and lie on the couch for the physical examination. During this time he may be talking with the relative, giving some instruction to his secretary, or filling the medical chart. When the patient is ready, the doctor does the physical examination and if there is any minor treatment to be given it may be done in the examining room. Then the doctor goes out and the patient dresses again and comes back to the consulting

room where the doctor gives the final instructions to the patient. He may declare his opinion about the diagnosis, prescribe the necessary drugs for treatment, or refer the patient to one of three departments:

a) A treating institution: a hospital;

b) The Home Care unit in the satellite clinic for home treatment;

c) The Nurse Treatment Room.

Area: Depends on doctor's requirements. Examination spaces are usually kept to a minimum area. There should be a space for a couch, possibly a handbasin, medical trolley, sufficient circulating space on three sides of the couch, sufficient space for the patient to undress, possibly a working table and a chair for minor treatments.

The minimum area for an examining room might reach 6 ft. 6 ins. by 5 ft. 6 ins.

Planning:
- Direct access to the consulting room.
- High level of lighting (need not be natural).
- Better to have a door between the examining and consulting rooms for privacy.
- There should be a circulating space for the doctor and a nurse for possible assistance.
- There might be in the examining room a weighing scale for babies or adults.
- Ventilation is very necessary and six air changes/hour may be required, which suggest forced ventilation.

- Acoustics: 45 d.b. and sound reduction by partitions.

Furniture and Equipment:

- Couch, 2'0" x 6'6".
- Circulating space for the couch, 2'6" x 6'6" on the side.
- Depending on the space needed at the head or at the feet, another 2' x 2'6" is needed for each end.
- Medical trolley, 3' x 1'6" and the space needed. on one long side of the trolley is 2'3" x 1'6".
- Coat hooks.
- Mirror and shelf.
- Waste bin or disposal paper containers.
- Focal lamps.
- Height measure.
- Scales.
- Medical equipment (ECG, sphygno, cautery, etc.)
- Transformer may be required.
- Handbasin.
- Couchside table.
- Cupboard for instruments and linen for the couch.
- It could be advisable to have a washroom directly accessible from either the consulting or the examining room.

NURSE-TREATMENT ROOM

This room is used for the physical treatment and the routine procedures involved in some cases for instance baby weighing, injections and immunisations.

It is very useful to have a nurse treatment room for duties that do not require a medical doctor to perform them, as for instance, dressings, washings, injections, etc. It may be used by nurses for interviews with patients, mothers with babies, pre-natal care, etc.

Functions:
1) History taking by nurse.
2) Sterilisation and storage of instruments, dressings, etc.
3) Nurses carry out treatments: syringe ears, give injections, change dressings.
4) Nurses carry out minor tests - urine - blood, etc.
5) Doctors carry out minor surgery, e.g. sutures, removal of cysts.
6) Casualties are treated.
7) Nurses organize bulk storage of dressings and other needs.

Procedure: As mentioned in the procedure of examining room, the doctor refers the patient to one of three places, one of them is the nurse-treatment room, the patient is treated in this room and can undergo minor surgeries. Also it can be used for pre-natal care.

Area: From 192 sq. ft. to 220 sq. ft.

Planning: The nurse-treatment room is used as a multipurpose space and it needs to have a nurse in charge. Also it should be as near as possible to the doctor's office and at the same time could have a small waiting area for cases of regular dressing changes, regular injections, regular checkings, etc. These cases need not sit in the main waiting room which is reserved for patients waiting to be seen by the doctor. But one fact remains important: the control. The receptionist should control every person entering this group practice unit for either the nurses treatment room or the doctors' offices. So the entrance and exit should be controllable by the receptionist. This does not mean that the patients going out have to cross the waiting room nor be in view of patients coming for a regular treatment in the nurse-treatment room. The result is that the nurse-treatment room should (a) be near the doctor's office; (b) have a separate small waiting area; (c) be more or less near the entrance of the unit in case of having any casualties to handle; (d) be subdivided into two areas: treatment and examination.

It is very necessary to have an examination area within the treatment room with a flexibility in the plan to have a possibility of using both divisions

at the same time. For instance a nurse could be examining a pregnant lady, taking her history while another one or the doctor could be doing a certain kind of treatment in the other area.

Furniture and Equipment:

Examining area:

- Desk and chair for the nurse.
- Patient's chair.
- Relative's chair.
- Worktop and cupboard.
- Sink.
- Disposable storage.
- Weighing scale for adults and babies.
- Measuring scale.
- Couch
- Coat hooks.
- Mirror.
- Curtain screen.

Treatment area:

- Chairs for patient and relative.
- Medical trolley.
- Work top.
- Refrigerator for medicines and storage of vaccines.
- Dangerous drugs cabinet.
- Microscope table.
- Autoclave.
- Waste disposal.
- Sink.
- Handwash.
- High level storage.

DISPENSARY

The dispensary in the group practice clinic should serve only the patients visiting the doctors in this unit. This means that any patient referred to another unit will have to take his prescrption from the main pharmacy.

This dispensary is a way to reduce queues on the main pharmacy and to provide patients with their drugs methodically, allowing more practitioners and more patients to be served at a time. The load on the dispensary is light and demands are regular which permits a better service.

Functions:
1) Storage of common drugs - few are compound to-day
2) Preparation of liquids.
3) Packaging and labelling of medicines.
4) Dispenser will maintain records of repeat prescriptions.
5) Dispenser will maintain stocks of drugs.
6) Dispensary may be used as small laboratory.
7) A dispenser if employed might conduct simple blood and urine tests and also occasionally help with reception and filing.

Procedure: The patient leaves the doctor's office, he is shown by the doctor the way to go: to the nurse-treatment or to the dispensary. The waiting room of the nurse-treatment could be used for the dispensary in case of many persons being served. Then the patient

presents his prescription to a dispenser, who takes it and brings the prescribed drug. The cashier receives the cash for the drug. This cashier is the same one receiving any fees for any service rendered in the clinic.

Planning: In the planning of the dispensary, it is necessary to observe the following:

1) Its position should be on the way out of the building;
2) It should have direct access from the secondary waiting area;
3) It should communicate with the clerical office in the reception area for record purposes, and also could have an intercommunication with the consulting room.
4) Most drugs require cool conditions, out of direct sunlight.
5) Working area.
6) Storage area;
7) Special storage area: Inflamables, dangerous drugs.
8) Cashier area;
9) The chairs or benches in the secondary waiting area should be placed in a way that gives a certain priority to the first come patient so that when the patients are more than two, they can be served in order by the dispenser.
10) Direct access to the nurse-treatment room.

Area: Is very variable but I propose between 200 and 240 for the dispensary and the storage area, waiting area is not included in this.

Furniture and Equipment:

General area:

- Reception counter for patients.
- Writing surface for dispenser.
- Chairs for two dispensers.
- Rolling in and out the wall shelves for light protection of drugs.
- Records for prescriptions.

Working area:

- Work tops.
- High level storage.
- Sterilizer.
- Waste disposal
- Sink
- Handbasin
- Balance table
- Refrigerator

Storing area:

- Bulk storage.
- Two divisions storage (poisons and drugs) (inflammables)
- Special area for solutions drums.

THE STAFF ROOM

It is essential to have a place for the practitioners and their staff to meet for different purposes. This is the place for it.

Functions:
1) Meeting room for doctors and staff.
2) Doctors to relax, discuss cases, etc.
3) "Board meetings" to discuss administration and policy.
4) Rest room for staff.
5) Occasional social events.

Area: Calculate 15 to 20 sq. ft. for every staff member in the unit. It will be very rare for all staff to be in the room at once but this area will offer space for occasional social events, educative courses, etc.

Planning: It should be as distant as possible from the patients area, for entrance and circulation. It should be near the consulting rooms but isolated from them. It should have private w.c.s for women and men. It is possible to have a subdivision within the room for automatic vending machines, some tables for lunch and coffee breaks and a counter for service in occasional cases.

Furniture and equipment:
- Easy chairs
- Coffee tables
- Bar counter
- Book shelves and low tables

- Writing desk and chair
- Sideboard for crockery, glasses, cutlery, drinks, etc.
- Drinking water supply - sink
- Automatic vending machines
- Projector built-in niche with projecting screen
- Loudspeakers arrangement
- Also an arrangement for a bedroom for the general practitioner on duty at night is required. It should include a sitting corner and a private bath. The bedroom should have two accesses; one from the staff room leading first to a labby and then to the bedroom, the other to the consulting room area for immediate access in case of urgency.

  Its furniture will consist of:

  Bed

  Desk and chair

  Cupboard

  Two armchairs

  Low table

  Bar counter as small kitchenette

  Sink

  Washbasin

  T.V.

  Bookshelves

  Telephone

  Interphone

OTHER MISCELLANEOUS SPACES

	Area sq. ft.
1) Entrance lobby	80
2) Cleaner's store	15
3) General storage room	60
4) Meter Cupboard	12
5) Kitchenette for possible food and refrigeration	90
6) One extra office for a health visitor	100
7) Messenger's room	60

8) Cloak room for men and women staff

9) Special requirements: connection with incinerators, with medical record unit and access from the street.

THE HOME CARE UNIT

OBJECTIVES: The primary objectives of home care are: to expedite recovery of the patient by therapeutic and rehabilitative measures applied in the home; to prevent or postpone disability, to prevent or shorten institutionalization; to maintain the integrity of the family during the illness of one of its members and to keep the cost of care within the limits necessary to achieve these objectives.

Home Care should not be considered "per se" a device to save money on hospital care, although this goal may be achieved (refer to page 93). At present it must be considered as another service that increases community health.

Also home care is a resource for patients of all economic levels. A rich man might need home care as much as a man under welfare program.

OBSERVATIONS: Statistics from a study of 10 home care programs[6] in U.S.A. covering a total of 3,517 admissions and concerning a total of 35 years of experience have shown the following:

- A high rate of rejections due to the non-existence of a specific criteria to measure the patients' needs for home-care treatment.
- Minority (40 per cent of all cases) of patients in geriatric age (65 and over).
- For ages 25 and under the highest proportions are between 13 and 15 per cent.
- This shows that the patient load is formed predominantly from

the under 45 age groups and geriatric group (over 64).

- Ratio of male/female admissions was 40.8/59.2 per cent.
- Two thirds of the patients were drawn from four main categories of illness respectively by order of importance: patients who are disabled by cerebrovascular accidents, patients with heart disease, cancer and various neurological conditions.
- Absolute necessity for home care programs to have hospitalization available for those whose conditions need it.
- 35.1 per cent were rehospitalized and 42.2 per cent improved.
- The importance of the various services in the home care system relative to patient-days is shown in the following table.

TABLE [26]

Nursing group	5.5 (one visit every 5.5 patient-days)
Physicians	10 (one visit every 10 patient-days)
Social work	14.2 (one visit every 14.2 patient-days)
Housekeeping	14.7 (one visit every 14.7 patient-days)
Physiotherapist	29 (one visit every 29 patient-days)
Occupational therapist	41.7 (one visit every 41.7 patient-days)

FUNCTIONS: The functions are related to the choice of types of services provided in the satellite clinic. The experience of the ten programs combined has shown the following most used types of services:

- medical visits for post-hospital convalescence periods.
- medical consultations for pre-hospital admission.
- all categories of nursing visits.

- social work visits.
- physical therapists.
- occupational therapist visits.
- housekeeping service days.

PROCEDURE: A physician visiting a patient at home or in a hospital judges that his health condition needs home care. The patient at home might require a minor treatment that could be provided at home instead of hospitalization and the hospital patient might not need all the sophisticated hospital equipment for his treatment. In both cases the physician refers the discharge form to the home care unit medical director who together with the coordinating directors judges if the patient is suitable medically, and if the services are ready to absorb him as a case.

In case of approval, the social worker evaluates the potential for adjustment to a home care situation and the patient's circumstances having regard to physical surroundings and social conditions. After reporting her findings to the medical director who must give final approval, the chart is passed to the credit office for review and establishment of a charge.

Now the patient is in the hands of the physician in charge of home care services who provides according to recommendations the needs of the patient in any kind of service. He controls all the services, including the coronary first assistance mobile unit which is under the direct responsibility of a cardiologist and one nurse on duty 24 hours a day. The

cardiologist is directly responsible to the medical coordinating director.

The position of the home care unit with respect to the whole procedure is well defined in the following table.

TABLE[27]

	Phase 1	Phase 2	Phase 3
Patient	Group practice →	Investigation →	- Hospital - Satellite clinic - Home care

The two phases (1) and (2) are compulsory for each member of the community who wants to reach phase (3).

PLANNING: The home care unit consists of two main sections: the coordinating section and the services section. The functions of the coordinating section are: to serve as liaison with the hospitals and other units; to fix the standards of care; to decide for admission; the administration of the unit; to call for consultant's advice. As for the services section, it provides all the types of services required by the patient.

It should be adjacent to the group practice unit so that the physician assigned to the case could be one of the medical staff working in the group practice unit, also the medicines could be obtained from the dispensary and finally the patient being in the group practice unit can be referred next door for interview in case of the need for home care.

ARCHITECTURAL PROGRAM

The architectural program of the needs for this unit depends mainly on a quantity and category of staff working in homes rather than on a set of rooms with different functions. So it becomes vital for the architectural program to have accomodation for the staff.

- The first step is to obtain reliable statistics (a previous experience or an experimental pilot program in a community). In my case I shall rely on an imaginary pilot plan that can give me the need of the community for a home care program load of 80 patients.
- Second step is to know the productivity factor of one person, which differs from one case to another. For instance in my case I assume that a nurse will do 7 visits a day, the physician 10, the social worker 8, the physiotherapist 5, and the housekeeper 10, the occupational therapist 3.

  Assuming:

  P = load of program (number of patients)

  f = factor of frequency of visits (according to service)

  n = productivity factor

  N = number needed

We get:

$$N = \frac{P}{f \times n}$$

In my case, the results will be: physicians 0.8, nurse 2.3, social worker 0.7, physiotherapist 0.5, occupational therapist 0.6, housekeeper 0.5. This assumes two part time physicians;

three nurses, two full time and one part time; one social worker; one part time physiotherapist; one part time occupational therapist and one part time housekeeper.

Co-ordinating section

- Medical director office
- Director of nursing office
- Social worker office
- Service section director office
- Secretary's office
- Office for two typists
- Liaison officer office
- Finance manager's office
- Office for two clerks
- Secretary's office
- Telephonist's room
- Conference room
- Interview office

Services section:

- Chief of service section office
- Secretary's office
- Physician's office
- Office for three nurses
- Social worker's office
- Office for three persons (physiotherapist, occupational therapist and housekeeper
- Office for assistant occupational therapist

- 3 stores for mobile equipment concerning: nursing, physiotherapy and occupational therapy
- Store for unit's needs
- Two interviewing rooms
- Drivers room
- Garage for two station-wagons
- Coronary care mobile unit (see page 157).

THE INVESTIGATION UNIT

OBJECTIVES: An intermediate phase in the process of a physician's diagnosis to give indexes resulting from investigations concerning the patient's physical condition. This phase consists of various types of technical medical tests that could mainly be classified as follows:

Laboratory tests - Radiology tests - Heart investigation - Brain investigation.

OBSERVATIONS: Outpatients data in Chapter II give us many indexes about the city of Montreal that might determine the volume of our health investigation needs. Following is a table showing totals for different types of tests for a set of ten hospitals in the metropolitan area (see data sheets) considered as our basic sample:

TABLE 28

	1966	1967	1968
Outpatients attendances	738720	750968	799373
Haematology tests	663299	718067	951267
Biochemistry (urines)	122359	145566	247201
Biochemistry (blood)	590812	924354	1357462
Bacteriology	445101	495299	764405
E.C.G.	71892	94820	122938
Chest X-ray	28805	28377	42644
Other radiographic exams	218708	186686	260380
Fluoroscopic examinations	18096	16186	29126

The average number of tests of each type needed for one outpatient was:

Haematology	1
Biochemistry (urines)	0.2
Biochemistry (blood)	1.3
Bacteriology	0.7
E.C.G.	0.21
Chest X-ray	0.04
Other radiographic exams	0.3
Fluoroscopy	0.027

FUNCTIONS: - To carry out some categories of tests that are mostly used or whose fluctuation shows a high "percentage of increase" rate predicting a bigger volume in the future.

- To have a home care division providing some minor types of analysis for the patients at home.

- To organize "detection" programs for the community health maintenance.

- To refer patients needing more elaborate tests to hospitals' investigations.

- To work in cooperation with hospitals thus taking part of the load off their investigation units.

PROCEDURE: A patient might be referred to the investigation unit by three different ways: (i) from the group-practice unit by the physician; (ii) from the satellite units by physician in charge; (iii) from home, referred by general practitioner. There is also another possibility which does not concern the investigation unit of the satellite clinic but the one in the hospital.

A patient could be referred by the group practice physician

directly to the hospital investigation unit if he judges necessary to have special types of tests that could be offered only in a fully equipped hospital.

PLANIFICATION:

- Assumptions:
  (i) Assuming the totals shown in table 28 apply to the whole population of Montreal.
  (ii) Assuming our community population is 30,000 people.
  (iii) Assuming the total population of Montreal area is 1,235,000
- Results:
  - Average number of outpatients per thousand population. will be 1,235,000: average of three years outpatients = 618.
  - Community outpatients load = 618 x 30 = 18,540 outpatients per year.
- Productivity per day: to assume such a productivity needs taking into consideration two main points:
  a - quality and quantity of equipment proposed
  b - quality and quantity of personnel proposed

These two factors can be evaluated only when the type and quantity of equipment is specified. But in order to carry on my plan, I propose to consider an imaginary set of figures representing the productivity factor per day of a proposed investigation unit for the community.

This set of productivity factors will be:

Haematology	120 tests per day
Biochemistry (urine)	30 " " "
Biochemistry (blood)	110 " " "

Bacteriology	140 tests per day
E.C.G.	30 " " "
Chest X-ray	4 " " "
Other radiographic exams	60 " " "
Fluoroscopies	12 " " "

My plan formula will be:

$$\text{Number of units needed} = \frac{T \times O/P \times n^{speciality}}{f^{speciality} \times 250}$$

where T is the total community load

O/P is the ratio of outpatient visits per population

$n^{speciality}$ is the average number of tests required by every outpatient (table p. I43).

$f^{speciality}$ is the factor of productivity per day.

250 I consider the total number of working days in a year, 250 days excluding two days a week for week-ends and some days for vacation.

The following results show the needs of our community on the assumptions above mentioned.

Haematology	0.6 of a unit needed
Biochemistry (urines)	0.3 " " " "
Biochemistry (blood)	0.8 " " " "
Bacteriology	0.3 " " " "
E.C.G.	0.5 " " " "
Chest X-ray	0.7 " " " "
Other radiographic exams	0.3 " " " "
Fluoroscopies	0.16 " " "

Considering all the figures exceeding 0.5 being operated for two communities of 30,000 population, the others will be operated for three communities. But special considerations concerning X-rays and bacteriology should be calculated. X-rays show that chest X-ray should be done for two communities while other radiographic exams and fluoroscopies could be serving three communities.

I think the best thing will be to take an average for both types of X-rays which is 0.5 showing that our need is to have one X-ray unit for two communities. As for fluoroscopy, it could either remain in the hospitals as it is not frequently used or it might be provided in one out of every two units.

Concerning bacteriology, the tables in Chapter II, showed us that the "percentage of increase" rate in bacteriology was high which means that if persistent, the number of bacteriology tests will increase in the future and might need one bacteriology unit for two communities. Our final result is that our specified unit, with specified equipment and personnel will cope with two of our communities.

PLANNING: Planning of this investigation section will be very flexible as per its two main components: the laboratories and the radiology components. In our example, we found that our need was for one unit of each of the two components covering two communities but it could happen in an area of Montreal that the need will be for one laboratory to cover two communities and one radiology to cover three communities. So it becomes vital to consider that our two components are completely separate

physically and they could be separate geographically too.

On this assumption, the architectural program will be really two programs, one for each component.

LABORATORIES ARCHITECTURAL PROGRAM

Haematology section:

Laboratories: - Blood coagulation lab
- Routine lab
- Special lab
- Blood bank

Offices: - Chief of the section
- Examining room
- Chief technician

Biochemistry section:

Laboratories: - One main lab for urines
- One lab for blood
Both could be in the same
- A small lab for the chief of the section

Offices: - Chief of the section
- Chief technician
- Examining room

Bacteriology section:

Laboratories: - One main lab
- One culture room

Offices: - Chief of the department
- Chief technician

RADIOLOGY ARCHITECTURAL PROGRAM

Radiology section:

Pre X-ray:
- Appointment office for radiology and heart section
- Receptionist " " " " "
- Waiting area " " " " "

X-ray:
- Two X-ray rooms
- Three dressing rooms
- Two enema rooms
- Two W.C.s

Post X-ray:
- Dark room
- Developing room
- Filing room
- Observing room for radiographies study with dictating equipment in the room
- Store for material
- Store for equipment

Offices:
- Chief radiologist
- 2 assistant radiologists
- 2 examining rooms

Personnel:
- Cloakroom
- Cafeteria

Heart Investigation section:
- Physician's office
- Consulting room
- Examining room
- Testing room
- Dressing room

COMMON AREA

- Appointment clerk - telephonist
- Receptionist

Offices:
- Chief of the laboratories
- Secretary
- Typist
- Accounts
- Chief technician
- Dispatcher of personnel and patients

Stores:
- Stores for the three sections with three divisions

Public:
- Waiting room
- Samples procurement area
- Public bathrooms (3)

Personnel:
- Cloakrooms
- Cafeteria

THE DAY OBSERVATION UNIT

The day observation unit consists of a certain number of beds for patients who can possibly stay at home but due to necessary procedures, laboratory tests, or medical observations, have to be very close to the doctors. Also it could be that these patients are cases that cannot be left at home alone for some reason such as unhealthy houses, family troubles, etc. The day observation unit working hours are usually from 8 a.m. to 6 p.m. Patients come in the morning and leave in the afternoon. During this period they are taken care of exactly the same as in one of our actual hospitals. But this day unit will be only used as an emergency unit. In the emergency units of the hospital people are admitted to occupy a bed only under certain conditions, the same for these beds. They will form one ward, 20 beds is suggested as a reasonable number of patients that could be taken care of by one head nurse and her assistant.

There is no intensive care in this day unit, no acute illnesses in these beds, no chronic cases. The above mentioned categories are referred and treated in hospitals, only observation cases and special short term cases will occupy these beds.

The architectural program:

- a medical ward for twenty beds
- washrooms, baths, etc.
- a nursing station
- a solarium with twenty armchairs

- a small library for books and magazines
- a kitchen for serving and heating food
- dirty kitchen area for soiled containers
- store for table sets
- a utility room
- linen store
- miscellaneous store

THE NIGHT CLINIC

The night clinic is mainly based on very special categories of doctors, for treatment. These doctors should work at night because the people treated by them are not acutely ill people. They are people needing continuous supervision. With the future development of organ transplantation, a regular checkup might be needed that will oblige people with an artificial organ to go for adjustment at regular intervals. The same for people with chronic diseases, they will not be able to miss a half day of work every time they want to see their doctor, so, this night clinic will suit their working hours.

The same for the children; children are often not very ill but they need a specific treatment, teeth, cuts or nose, glasses for the eyes; these treatments necessitate so many visits to the dentist or E.N.T. or specialist, why not have this dentist or specialist, working at night so that when daddy comes home, he might take them to the clinic without losing a half day of work to take them to an outpatient clinic in a hospital waiting on a chair for three or four hours. The same might be applicable for adults.

These clinics are diagnostic clinics. The problem remains: who is the doctor that will agree to work at night in a clinic ?

Here, I should point to a fact. To-day we are told that the doctor's time is very precious, and that it is better

for him to remain steady and have people come to him, losing their time, and thus see more people rather than for him to lose his time going to people.

A similar point applies to the night clinic. It is better to have one doctor work at night and so that many people may be treated by him, rather than work during the day causing so many people to loose their time and money to go to him.

THE COMMUNITY ADDICTION UNIT

Looking at the addiction problem from the angle of our example of St. Luke's hospital (refer to page 108) and having in mind the seven billion dollars involved in the 100,000 addicts of New York, let us meditate and see.

What can we do to cope with a situation much less grave than the one of New York, Montreal in our case.

First let me put in evidence what I might consider as the leading lessons from this experience:

1. De-mystification of the specialists' role and de-monopolization of their skills by transferring them directly to the community group practice clinic.

This is very important and is valid in many cases concerning public health. And in all cases it saves a lot in medical personnel and medical installations. In Great Britain there is actually an experience of "transfer of powers". This experience is done in the field of Haemodialysis in the home.*

In this experience patients are trained to dialyse themselves at home instead of coming to the hospital for this test. This proves that it becomes important to-day in the medical field to transfer some of the power of the physician to the family. Moving this possibility to the addiction plane, it will help treating many cases of addiction at home and the only way to fulfill this transfer of powers is by a communicating

---

* E.K.M. Smith, S.S. McDonald, J.R. Curtis and H.E. De Wardener Charing Cross Hospital Medical School and Fulham Hospital London. Haemodialysis in the home. Lancet 1:614-617, 1969.

media. A planned system for this transfer of powers and a studied efficient educating program achieved through the education unit of our satellite clinic.

2. When it comes to needs and measures to be taken, a community is often well aware of problems concerning it.

We have heard of an extreme case, how mothers were shooting drug pushers and suppliers, when they considered it the only way for the safety of their children.

We have read how the community colour prejudice vanishes and all the racism problems disappear, when it deals with a vital problem. "50 black, brown and white members of the community invade the hospital". (See page 109).

So communities are aware and able to fix their needs. Why do we not transfer the power to them ?

These were the two points I could extract from the St. Luke's example.

In my satellite clinics, I suggest the following:
a small 10 bed unit: the community addicts unit.
This is not mainly the psychiatric division. It could be part of it, but due to my lack of knowledge about psychiatry and its treatments, I propose this unit as an addicts unit. I am sure that many addicts could be helped this way in these clinics.

As for the solution to the drug addiction problem, this is not in the context of this thesis, yet help might be given in two cases:

a - Drug detoxification;

b - Addiction therapeutic treatment.

And this unit might provide both. Addicts might come in case of an overdose and spend one night in this unit.

The procedure being that the general practitioner on duty at the satellite clinic in the night unit receives the young addict and refers him to the addiction unit, treats him there and leaves him with the two nurses, a man and a girl, to take care of him.

The ten beds in this ward could be used also by a school clinic independent from the satellite clinic but which can refer to this ward some students with no need for hospitalization but for a special care.

THE CORONARY FIRST ASSISTANCE UNIT

The mortality statistics show us that the major killers in Northern America are heart disease and strokes. What can a community satellite clinic offer to cope with this situation ?

To counteract this situation, many recent studies have been done on coronary care units and there has been now sufficient experience of intensive coronary care to try to appraise its achievements, limitations and future.

From an experience in the Coronary Care Unit in the Royal Infirmary of Edinburgh*, the following were the results in two years: 1,300 patients had been admitted

135 only died.

During the first year of the Coronary Care Unit, the mortality was 16.3 per cent. In contrast, the mortality in general wards during the preceeding year was 23.4 per cent. Table I7 shows the main causes of delay in admission to coronary units.

My solution is the following:

Mr. X has a heart attack. Mrs. X phones her community satellite clinic. If it was to-day, she has to find out a cardiologist and contact him, he will refer her husband to a hospital, then she will contact the hospital that has the appropriate equipment for heart patients treatment or the doctor will do it for her. Otherwise she runs the risk of

---

* The Place of the Coronary Care Unit.
M.F. Oliver, M.D., FRCP Ed, MRCP, Department of Cardiology Royal Infirmary Edinburgh.

phoning a hospital with a non efficient emergency department and no coronary unit.

If we consider that there is a cardiologist in the community "on call" and a nurse on duty in the satellite clinic, she will phone the doctor who will go by car to the patient's house. Let us suppose it will take him fifteen minutes to arrive. The nurse phones the driver of the mobile unit and within ten minutes the mobile unit has moved. Let us suppose it will take twenty minutes for the mobile unit to arrive at the patient's home. She will go in to assist the doctor and move the patient in the mobile ward. Starting from this moment, the treatment starts.

TABLE 17 (reference :Bibl.20

TABLE SHOWING THE MAIN CAUSES OF DELAY IN ADMISSION TO CORONARY UNITS

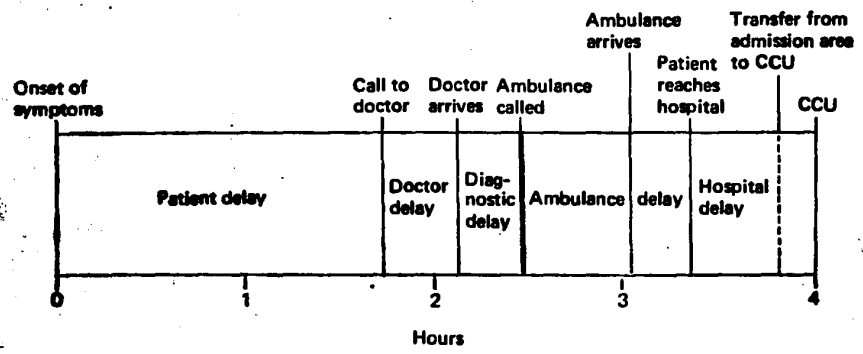


Fig. 1. A diagram representing main causes of delay in admission to coronary units. In the Edinburgh Royal Infirmary Coronary Care Unit, 57% of all patients are admitted within four hours. Specially equipped coronary ambulances can be expected to reduce the delay in admissions to hospital by about a quarter only, unless they are to be called directly by patients.

In order to hasten admission, flying squads have been developed in the USSR (Moiseev, 1962; Chazov, 1968) and in Northern Ireland (Pantridge and Geddes, 1967). The Belfast team has shown that the resuscitation rate from ventricular fibrillation in patients treated in their homes is as good as that in a hospital intensive care unit. But this presupposes that expert treatment can be brought to these seriously ill patients appreciably quicker by a flying squad than by transferring them to a coronary care unit. Preliminary informa-

Now there is the comparison between a police ambulance and this heavy unit. The police ambulance might come in fifteen minutes and go back to the hospital in ten other minutes, but applying the table, we see that the patient has, from the moment the ambulance is called, one hour and a half till he starts being treated.

In my case, even if the unit covers the distance one way in twenty minutes instead of ten minutes, the patient, twenty minutes after the telephone call, is being treated in an ambulant hospital with monitoring system, oscilloscope, defibrillator, etc. The patient has won one hour and ten minutes approximately. If we take into consideration the fact that minutes count in case of a heart attack, we see the value of this solution. The above mentioned applies to the patient who phoned a private cardiologist, but in case he phones the satellite clinic, the saving in time is really much greater because actually the count would start from the telephone call which makes 2 hours twenty to the C.C.U. Taking out twenty minutes we have saved about two hours.

This Coronary Care Unit has no architectural analysis but it is linked to some architectural arrangement. When in the satellite garage it must be maintained as an ordinary hospital. I think a detailed study might advise that the two mobile units be on the level of the nursing unit and directly related to the Coronary care nursing department so that at the telephone call the only thing is for the driver to drive the unit to the patient's home, when the nurse is in it.

When the unit arrives to the hospital, the patient is not immediately transferred from it unless the cardiologist of the hospital is ready and all the preparations are done. This ensures the continuity of the intensive care to the patient.

This C.C.U. does not bring patients to the satellite clinic, it is a way for any member of a community who has a sudden heart disease to start being treated not later than thirty minutes after the telephone call, till he is transferred to the hospital.

Screening cannot be judged as one item and considered in a general way.

This is due to two factors:

a) The choice of diseases for which the screening is done can be so wide that it becomes rather uneconomical to consider a screening on a very large choice scale.

b) There are some diseases where an early diagnosis does not affect the treatment e.g. a cancer where an early diagnosis is only an extension of the known period of illness for the patient.

a) The choice of diseases.

1. In a recent study in Scotland* on screening for breast cancer, no tumours were found in 912 well women examined clinically and by mammography. But if we consider the small yield of cases 2 - 8 per 1,000 per year, we see that this does not mean that the screening is useless. It might be uneconomical because the screening techniques are expensive in time and equipment. So, the choice of the disease to be screened is dependent on the expenses involved in the screening test compared to the yield of cases, and the possibility of treatment and recovery.

2. The choice of the diseases to be screened depends also on the community mentality and its willingness to co-operate with the medical corps. For instance concerning the Cervical

---

* The Lancet no: 7617, May 1970, page 1161.

Screening, in British Columbia with very great effort, 75% of women over the age of 20 have been screened at least once since 1949, while in West Sussex, 72.5% of women, mainly under the age of 70 consented to have routine cervical cytology and breast examinations.*[1]

The British Columbia project is one of the largest and best known of all community screening programmes but till to-day it is difficult to state if any improvement in the cervical cancer can be attributed to the cervical screening programme.

3. The choice of disease does not necessarily apply to a certain category of people. For instance routine urine tests. This is the most common test.

Is every patient having a urine test in our hospitals to-day ? This test is done only to a certain category of patients with certain supposed illnesses. It is done on a hit-or-miss basis. Following is an example of how a urine test if adopted for <u>all</u> patients out or in patients going to hospitals (and these form a high-risk group of the population) can give unexpected results. Recently a Scottish hospital decided to test the urine of every patient, regardless of the clinic he is attending and discovered 6 new diabeties in the ear, nose and throat clinic alone. Normally these patients would not have their urine tested routinely and their condition might have remained undetected until one

---

* The Lancet 1969: N:7614, page 255.

or more of the complications of diabetes developed.*

b) The validity of screening can be well defended when it deals with acute and chronic infectuous diseases, such as tuberculosis but when it comes to non-infectuous chronic and cancer, its validity could be doubtful because early detection of the disease serves only to stretch its clinical stage.

For example two patients with the same kind of cancer in 1970. One will be undergoing a screening test and his cancer will be detected, he will die after five years of treatment, in 1975.

Two years later, 1972, the other one will have his cancer detected by a routine clinical practice, he will die after three years of treatment. Actually both patients are in exactly the same condition. Early detection of the cancer has not pushed the life of a patient two years forward but it has pushed the disease detection two years ahead. But both cancers took 5 years to kill the patient.

The result of this analysis is that often, routine tests are useful and worthwhile and the need to make them possible should be considered in planning a satellite clinic. I propose an idea that might possibly help solving the problem of the participation to screening programs. This idea is this: Every four or five communities build a hotel on a beautiful natural resort far from the city and have a multiphasic laboratory test similar to the one of the Kaiser plan, fully computerized that can cope with one patient every three minutes.

---

* The Lancet 1970, N:7657, page 1167.

Then, the government encourages the population by free transport and accomodation to these resorts and two off days with salary every year. I am sure all these expenses will cost to the government on the long run, much less than one week stay in the hospital. Moreover these could be covered by a small increase in the taxes.

I am emphasizing this point and allow myself to go out of the thesis by considering by-laws because I want to change the actual impression that a hospital is an occasional place to go for the common citizen when he feels ill. I see the need to a stimulation operated within the community to put the citizens' mind in a condition considering the hospital part of their lives if not the whole hospital the satellite services attached to it and this is at least the lack. The small units in the communities that stimulate psychologically the community till they become part of their daily life. This can only be done by real participation of communities into their satellites. Anything given is not appreciated at its real value unless there is an effort done to get it. It is true that hospitals are built partly by the fiscal duties of the citizens but these citizens do not participate actively in the projects concerning them. We have seen for instance examples where public health projects were done by government that were refused by the communities.

The justification for the refusal might be different for everyone of these projects but the cause of this refusal is always the same: the non-participation of the communities into the project done to meet their needs.

Contrarily we have seen how projects started by students are growing a normal growth due to the full co-operation of the community and its positive part in the activities as in Pointe St. Charles.

The citizen feels that he has nothing to take care of when being in a healthy condition. He is not observing any maintenance or checking plan on his health.

There may be parts of Montreal where this city has adequate hospital beds, physicians ratio to population and a high quality of services delivered. But there is also evidence that there is no plan for a coordination on two levels:

1. co-ordination between the hospitals to plan and distribute their services to communities without overlapping, thus saving sometimes important sums of money allocated for improved installations without proportionate use.
2. co-ordination between the communities and the hospitals to determine the needs of these communities for subservices and for other agencies to maintain a good health level in the community served by the hospital.

My personal admission is that the hospitals to-day, emphasizing more treatment of illness, are improving their medical methods and quality of treatment but are systematically absorbing away the problem of illness from the people of the community.

The result is that they are out of the community mind until the disaster happens: "a case of illness". Suddenly, people remember the hospital and become anxious. They do not want to wait in clinics and they complain about being on waiting lists for months.

This shows clearly that the whole system should be improved. Solutions must come from within the problems from within the communities. It is not the government's job to

organize for the citizens. The government's job ends at the point of giving the community the means to meet its needs.

We have seen how the Germans are indignant at the idea of having the government holding and acting positively in their public health systems. The only thing they want from their government is to stand far away and intervene in the necessities. Otherwise they organize themselves. They have about two thousand "krankenkassen" other than the private profit insurance agencies and still there is a co-ordination between these thousands of agencies in the German case. The city is no more divided by communities, it is divided by functional groups: the bus drivers, the hotel waiters, the hospitals employees, etc, and I think the main cause leading to the efficiency of the health system is that everyone of these groups knows quite well what his needs are and so he manages by universal participation within the group to meet the needs in a certain way that might be different from the other group.

In our case in the city of Montreal, the Minister of Public Health has stated himself that there are some specific differences in the morbidity conditions not only in case of different cities but also in case of different sectors or communities within the same city.

What does this means ? For me it emphasizes the statement that a community health system should not come from the authorities, it should come from within the community and be realized through the government. Let the communities find out their needs. Divide the city into small independant cells and

let each cell organize itself the way it suits her following general outlines common for all the cells in the same city.

How are the communities able to find out their needs ? The first essential for knowing the happenings in a community is the machine writing down these happenings: the medical records unit.

This agency has in its record every single movement and action concerning the citizens health condition. These actions are sent by private clinics, hospitals and public clinics.

Let us suppose I live in N.D.G. I went to the Jewish General Hospital, the Jewish General Hospital having my address will send automatically a copy of my medical record to the satellite clinic of N.D.G. with my name and number. The same for any doctor in town. Knowing my address he will send the copy of the medical record to my community satellite clinic.

The medical records of the community analyzed at the end of each season, by computers or any other method, can draw a clear picture of the needs of this community at each season.

It is quite possible that in winter there is a large percentage of the citizens having heart or asthma diseases, so it will be possible to find suitable plans like the ones done in Sweden to take the sick people to softer climates in winter, thus cutting a lot from hospital expenses and giving a more efficient result. These trips could be organized by the chronic convalescence unit of the satellite clinic.

I propose this unit consisting of two main parts, as mentioned in the following pages.

PART I: THE "MOVEMENT" SECTION:

It is divided into:

a - the collecting section

b - the sorting section

c - the stacks

d - the requisition section

The collecting section: is the section responsible of receiving all the copies of medical records concerning the community, and it is the section responsible of the follow up for the acquisition of any missing medical record concerning the community.

The sorting section: is the one receiving the medical records from the collecting section and sorting them out in a certain way to be filed on stacks.

The stacks: are large enough to contain one record file for every citizen in the community.

The requisition section: receives all the enquiries from doctors, hospitals, etc. asking for a medical record or any other enquiry concerning a member of the community and sends the records to these places, then refers the out notice to the collection section.

PART II: THE ANALYSIS PART:

It is divided into

a - compilation section

b - resulting section

c - programmation section

d - computers section

e - administration section

Compilation section: gathers all the data concerning specific items in the questionnaire and compiles them together.

Resulting section: takes the results of this compilation and prepares results for the programming section.

Programming section: prepares the program to the computers.

Computers section: purely technical

Planifying section: takes out the results from the computers and compare them, draws comparative curves, and studies the needs of the community according to the results.

THE CONVALESCENCE UNIT

OBJECTIVES: The main objective of this unit is to assist the recovery of the patient who needs no longer all the intensive medical care and services of the hospital. It is not a unit for geriatric cases, it is a unit for all ages, who can benefit by it.

OBSERVATIONS: Statistics of hospitals have indicated in Canada a high length of stay rate for both acute and chronic cases; but the length of stay was tremendous in chronic cases (see tables p. 33) which obliges us to divide our convalescence unit into two separate sections: the acute and the chronic, to avoid the convalescence unit being inundated by near permanent chronic residents.

A recent survey on 42 hospitals in Scotland* has shown that an average of 30 per cent of the patients could be more properly accomodated in alternative accomodation.

FUNCTIONS: To receive patients after hospitalization; to have a permanent representative in hospital as liaison officer; to be the intermediate link between hospitals and group practice units.

PROCEDURE: With the present system of hospitalization, it is necessary for this unit to be reachable from the hospital but with the system of a satellite clinic, the patient is referred to the hospital in the first instance by a group practice doctor and it becomes logical to send the patient back from hospital in the care of this doctor who knows well the patient's medical background and can follow his recovery in the convalescence unit far from the hospital.

PLANNING: The rehabilitation and occupational training unit should be close to convalescence to allow the easy access of physiotherapists and occupational therapists.

- Easy access from group practice unit.
- Pleasant surroundings and facilities for self care by the provision of personal service areas (kitchenettes, working offices).

DEFINING THE NEEDS: To know the volume of the convalescence unit, using figures from statistics and considering the result of the Scottish survey mentioned previously, I can expect 30 per cent of the patients in the hospital eligible to be accomodated in an alternative accomodation. If I suppose 10 per cent for the convalescence unit, 10 per cent for home care and 10 per cent for the other units of the satellite clinic, the result will be, considering Quebec statistics:

129 admissions per 1,000 population (table p.26)

10.2 days average length of stay (table p.35).

(ten per cent of 129) x 10.2 = 131 patient-days

131 : 365 days a year = 0.35 bed per thousand population.

Considering a community of 30,000 people, the result will be that I need 0.35 x 30 = about 11 beds.

Adding some beds for chronic long term stays we can have 15 beds for both acute and chronic considering that some of the chronic cases are old aged who could be in a geriatric unit.

ARCHITECTURAL PROGRAM

Acute convalescent section

a) 4 rooms providing sleeping, sitting and writing facilities for self supported patients with private bath.

b) 3 rooms for patients with appliances

c) 2 standard hospital rooms

Chronic convalescent section

- 6 single rooms

Common areas

- Lounge and pantry for "meals on wheels"
- Porters' station
- Wheelchairs alcove
- General office
- Administrator's office
- Staff changing room
- Nurse's station
- Patio for physiotherapist outdoor promenades
- Treatment room
- Utility room
- Dispensary
- Disposal room
- Supplies store
- Equipment store

Economies between an acute ward and a convalescent unit can be summarized as follows:

a - Smaller floor area per bed - 100 to 120 sq. ft. reduced to 80

b - Narrower corridor width

c - Smaller floor area of auxillary accomodation.

d - Reduction in engineering services, no piped medical gases or suction.

e - Reduction of expensive equipment.

f - No particular noise or visual problems requiring considerations.

THE REHABILITATION UNIT

OBJECTIVES: To help patients needing any kind of rehabilitation after hospitalization and also to facilitate the use of rehabilitation equipment by the community without requiring long distance travels to hospital every day before going to work.

appendix

OBSERVATIONS: The tables (5- op) show clearly that there is a growing awareness of the advantages of rehabilitation especially physiotherapy. Moreover occupational therapy is lacking in Canada. It is stressed in deliquency institutes but in public health institutions it is nearly non existant. We have seen in geriatry how it is important for the old aged to feel useful again. On the other side, looking at statistics we see that the accidents are among the leading causes of death and hospitalization between the ages of 19 to 35. The longest period of hospitalization after an accident is the rehabilitation period. This points out the need for a physiotherapy unit in the satellite clinic.

FUNCTIONS: - To provide physiotherapy treatment to all ages.
- To provide occupational therapy mainly to old aged.
- To organize a system of home care rehabilitation program.

PROCEDURE: The patients are referred from hospitals to the group practice unit with the treating doctor's recommendations to the community general practitioner who assesses the needs of the patient for rehabilitation and gives his personal recommendations to the chief physiotherapist, who is in charge of preparing the appointments schedule according to the case and vacancies in the unit.

The physiotherapist assesses a patient by examination and gives him a schedule for his training sessions. Also the social worker might refer some cases of rehabilitation to the chief of the department.

PLANNING: This unit should be planned in two sections: physiotherapy and occupational therapy. It should be situated very close to the convalescence unit and can possibly be considered an integral part of it, but physiotherapists do not provide medical nursing care, they provide technical physical care and both cares should work together in the convalescence period.

ARCHITECTURAL PROGRAM

Each of the two departments could be divided into two sections: The Home Care section and the Convalescence section.

For the Home Care section, see home care architectural program (page I39).

The Convalescence section:

- Chief physiotherapist
- Secretary
- Waiting room
- Receptionist
- Consulting room
- Examining room
- Dressing rooms for patients
- Physiotherapy gymnasium that can be separated in two parts for men and women also for special exercises that need privacy for the patient.

- Hydrotherapy gymnasium
- 3 electrotherapy rooms
- Cloak room for patients
- Store for equipment
- Physiotherapists, 2 offices.

The unit occupational therapy section:

- Chief occupational therapist
- Secretary
- Waiting room
- Receptionist
- Examining room
- 2 workshops for various occupations
- Artist's studio
- Cloakroom
- Control office
- 3 rooms for teachers
- 3 small stores for different material
- Outdoors architectural flexible arrangements for multipurpose outdoors working premises.
- Handcraft exhibition gallery

THE EXECUTIVE WARD

OBJECTIVES: The three main causes of death gives another picture of future needs: people with cancer, heart disease or vascular lesions might happen to be businessmen who need diagnosis and investigation for long periods, these executives are not lying in bed ill or paining, they are apparently normal.

The main objective of this ward is to provide a place for the executives to carry on their daily duties and responsibilities while being diagnosed and investigated.

OBSERVATIONS: My personal observation is that heart disease is related to responsibilities and stress which occurs mainly in the executives category. It is not a rule but an obvious assumption. No statistics can show indexes on this point.

FUNCTIONS: - To accommodate executives for short periods of stay (pre-hospital or post-hospital) in a way to provide them with all the services to accomplish their daily duties.

- To give an adequate atmosphere of security and self-confidence for non-paining but ill patients.

PROCEDURE: These executives will be referred from hospitals, or group practice clinics. This ward will be a private ward with fixed daily fees.

PLANNING: - To provide atmosphere of medico-business room.

- Close to the group practice for easy access of the physician to his patient.
- Close to the investigation unit where all the tests will be performed.

- Close to the physiotherapy for post-hospital cases with long convalescent stays.
- Special arrangement for a car to cross the receptionist office and have a direct access to the room without as far as possible leaving the car. This arrangement will give privacy to the executive and to his secretary who will come every day to the office adjacent to the executive room where the businessman can spend his whole day working. So the arrangement will be two rooms with two accesses, a medical access to the hospital room from an internal corridor that might lead to the various investigation departments, an access to be used by physicians and nurses; and another private external access to the office room, used by the patient's secretary, employees and visitors without going inside the hospital building nor crossing a control point.

ARCHITECTURAL PROGRAM

This program feasibility and the number of its rooms depends on the community social level.

I shall assume a need for 6 such beds.

- Receptionist
- Telephonist
- 6 single bed rooms with bath, heart monitors, oxygen, air and vacuum

Annexed to every bedroom

- an office for private clerical works with two desks, the executive's and secretary's.

- Sitting area: two armchairs and two ordinary chairs for visitors
- Tape recording built in system near the bed for the patient's dictating purposes
- Typing table
- Separate W.C. for the office
- Television in the bedroom

Common medical services:

- Nursing station
- Utility room
- Linen room
- General control room for heart monitoring
- Electrocardiograms room
- Physician's consulting room
- Examining room

General services

- Xerox room for documents reproduction
- Store for electronic equipment

General areas:

- Pantry for food receiving and sorting
- Cafeteria
- Outside terraces
- Main sitting lounge
- Solarium
- Reading room

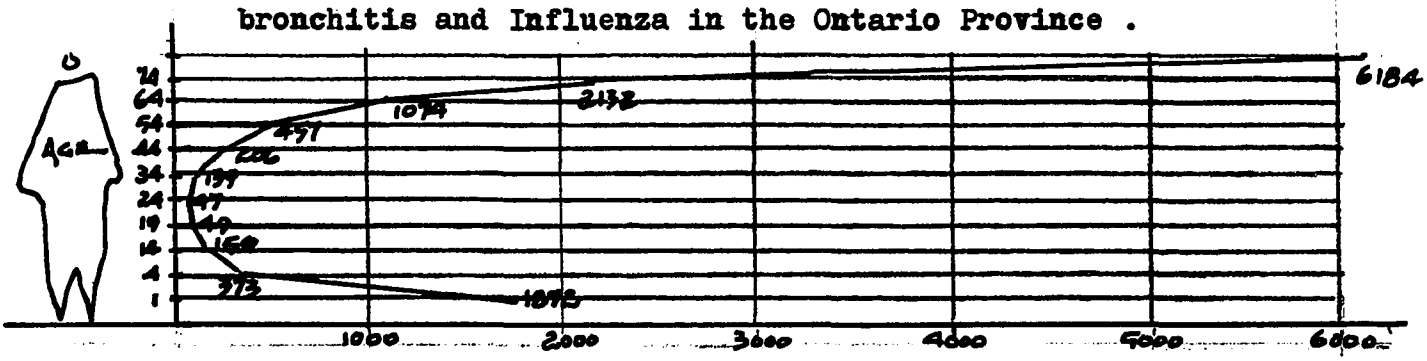
THE "FLU" WARD

OBJECTIVES: To take care of diseases related to influenza, colds and sore throats that might sometimes need hospitalization for special reasons (See page 94).

OBSERVATIONS: The number of deaths in 5 years, 1960-64 in Ontario from pneumonia, bronchitis and influenza were for all ages about 5 per cent of the total deaths* as shown in the following table.

TABLE 18

Table showing deaths in five years from pneumonia bronchitis and Influenza in the Ontario Province .



Considering this curve, I feel that it will be better for both the very young and the old aged not to be taken out of their communities for such illnesses that can be easily treated in the community environment. Both need family care together with a limited extent of hospital care. We should also consider our home care system in the satellite clinic that will cover part of these cases.

FUNCTIONS: Treatment of cases related to cold.

PROCEDURE: All the cases will be referred through the group practice unit by the home care unit or separate clinics.

---

* Notes on Public Health and preventive medicine .
Department of Public Health, University of Toronto.

PLANNING: This ward is necessarily in the periphery of the group practice unit not necessarily close to it, so that general practitioners can do their visits on their way to or from the group practice unit. Ordinarily these cases can be treated at home but when they are hospitalized it is for respiratory troubles, so artificial respiratory equipment should be available near each bed. Also it is better to have two wards of five patients each for a classification by age and easy emergency care, in case of respiratory complications, but both wards are to be controlled by one nursing station with two single bed rooms for isolation cases. These wards can be transformed in summer to a summer residence for old aged.

ARCHITECTURAL PROGRAM

- Two wards of five beds (with special provision curtains or sliding partitions for examination privacy and summer use.
- Two single bedrooms for isolation
- One control nursing station
- Necessary services (Baths, W.C.)
- Bedroom for nurse on duty
- Physician examining room
- Pantry for frozen food receiving
- Dining room for 15 persons
- Lounge
- Solarium
- Cafeteria
- Reading room

THE EDUCATION UNIT

OBJECTIVES: To prevent diseases by health education, decentralization and demystification of the medical profession, thus giving the community a health sense that helps to solve many physical problems within the community at home, instead of being solved in hospitals or in private clinics.

OBSERVATIONS: In the province of Quebec for the year 1966* it was clear that the most efficient point of contact with people, "The Television" was not adequately used (105 presences in the programs) while the nurses' home visits were 232,648, out of these, 34,493 were for private demonstrations purposes. The same for the films projections, only 230, conferences 1,667 (a very low figure). It is apparent that a lot could be done in the field of community education.

FUNCTIONS: - To organize community committees for planning educative programs

- To hold community conferences
- To organize pre-natal courses for community mothers
- To participate efficiently through the mass communication media, T.V., radio, cinemas by educative programs and stress on a mass education rather than personal interviews.
- To stress on school educative programs by instituting compulsory health courses on all levels and educative organized activities.

---

* Report of the Ministry of Public Health of the province of Quebec, 1966, p. 74.

PROCEDURE: Reference to community statistics and medical records will indicate the goals of the educational programs and their volume.

PLANNING: Mainly divided into four sections: mother and child, students, adults, old aged. These will refer to a common service section:

- Radio and T.V.
- Cinema
- Conferences
- Home visits
- Miscellaneous activities (parties, trips)

This unit forms a completely physically independant unit of the satellite clinic

ARCHITECTURAL PROGRAM

- Receptionist
- Interviewing room
- General director of education

Chief offices:
- Mother and child
- Students
- Adults
- Old aged

- Secretaries: 4 offices

Assistants offices:
- Radio and T.V.
- Cinema
- Conferences
- Home visits

Miscellaneous accomodation:

Stores - Films, tapes, equipment

- Films
- Equipment for conference hall
- Pamphlets and equipment
- General store
- Small printing press
- Store

- Printing office
- Stationery
- Community conference hall (auditorium)
- Projection room
- Projection screen
- Small meeting room with projection equipment for pre-natal courses and other conferences
- Cafeteria
- Exhibition gallery
- Gardens and play-yards

Community club for social games and family grouping:

- the main hall
- small medical library
- three activity rooms
- noisy games room
- adults small gymnasium
- swimming pool
- artist's studio (painters, sculptors, etc.)

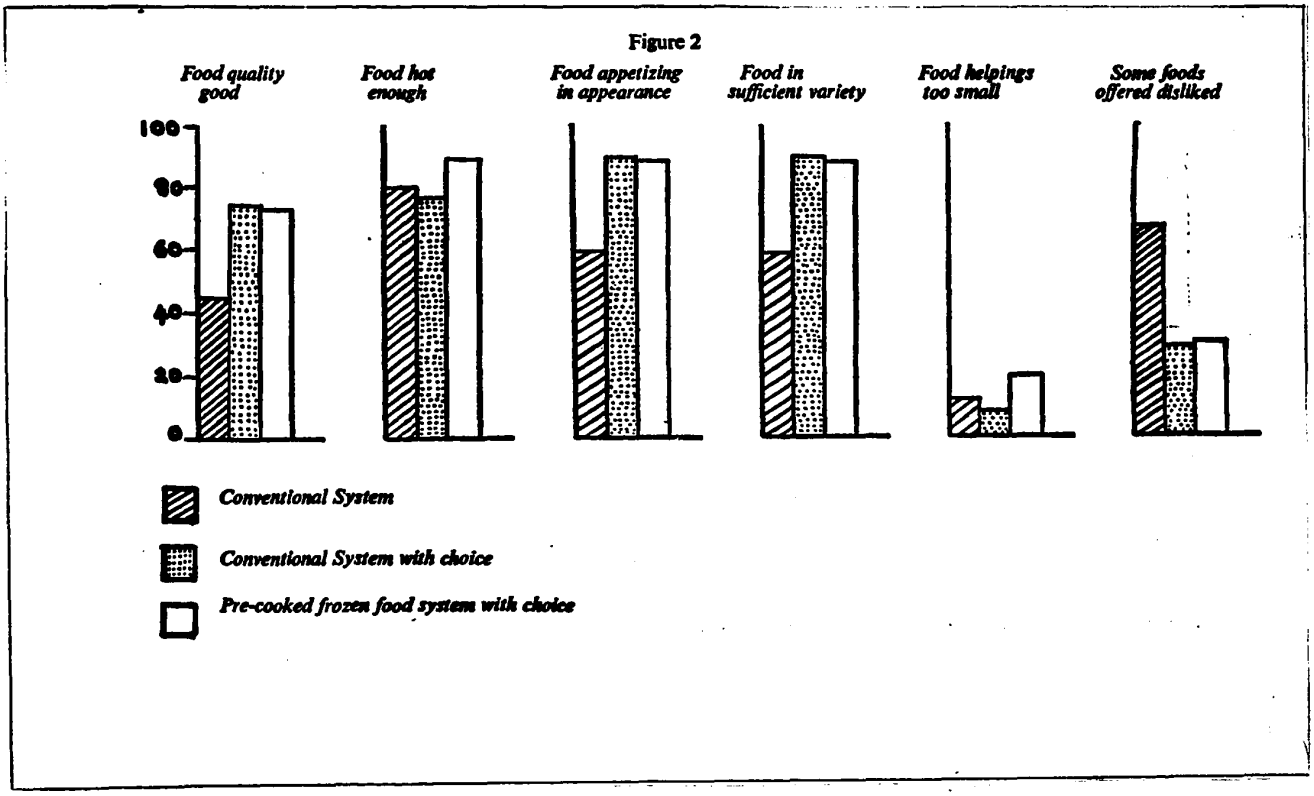
It is obvious that solving the feeding problem for the various categories of ill-persons will help a lot in keeping these persons in their own environment as much as possible.

It should be pointed out that the pre-cooked frozen food system is not only solving the dietary systems for hospitals, but if organized and co-ordinated it can be a very efficient tool in the hands of health groups.

Table dia.I9 shows a comparison between three systems of food supply to prove some advantages of this system.

TABLE I9

TABLE SHOWING COMPARISON BETWEEN PRE-COOKED FROZEN FOOD SYSTEM AND CONVENTIONAL SYSTEM .



Let us take a cross section of the health strata in a community and see how this system can benefit these groups.

Home care: In North America it is very current to see all the members of the family working. So the mother is not 100% present at home. In case of illness, the member of the family in question remains at home alone. It becomes then necessary to provide him with the adequate food. Even when the food has been prepared for him by the mother the day before, he will find it hard to stand, heat it and serve it then collect it.

Old aged: Many old aged people are living very decently on their own. Their big problem is food. Who is going to buy their food, cook it, serve it ? They cannot do all of this alone. The pre-cooked food will solve their problem.

Day hospitals: Considering a day hospital, a place where people go in the morning and come back home in the afternoon, many agencies do not want to get involved in the expenses of buying modern kitchen apparatus, running a kitchen personnel and worry about buying and planning for food. The pre-cooked food solves the problem.

For convalescent unit: It can reduce these units to a very simple expression. No kitchen problem at all. Residents are served by pre-cooked food. The only service provided by these units will be a very low proportion of nurses/patients due to the fact that patients in these categories can take care of themselves.

Post-natal service: Mother can come back home as quick as possible. She does not need to stay at the hospital to be fed properly nor she needs to cook for herself or any other member of her family.

The plan I propose is:

One or more manufacturers of pre-cooked food in the city. These agencies would have many methods of delivering the food.

a) For hospitals

Orders for the food might be given by ward, so the food could be delivered in small trailers. The big main recipient is containing so many of these trailers. It arrives at the hospital and delivers the food to the food distribution department in these frozen trailers. These are immediately mounted on special rails that lead them to the kitchenettes on the floors. They are kept here in the same trailer. Supposing Mr. X wants his food served, the nurse takes out the portion for Mr. X, heats it in a small microwave recipient and serves it to the patient. The patient eats when he wants and there are no problems of cold food.

b) For satellite clinics

PROCEDURE: The following is the system that I propose to meet all the dietary needs of the satellite clinic.

1) The frozen food is transported from the factory in mobile deep freezers to the satellite clinic dietary unit.

2) In the satellite unit there is another deep freezer room where the whole frozen food in the mobile deep freezer is emptied. This represents the whole bulk of food consumption for the following day. The food is for patients as well as personnel.

3) The dietary unit receives the whole order, checks every order separately, sorts it out and keeps it prepared for transport to the units.

4) During the day, food is transported in small freezers, one for each unit. The food concerning every unit has been packed in its own freezer.

5) This freezer is mechanically transferred to the pantry and fits in a specific allocated space.

6) At meals time, the nurse opens the freezer's door, heats the food in microwave ovens in seconds and serves it to the patients. The menu of each patient is mentioned on the package with his name.

7) The nurse has a list of the patients' names and the menus prescribed by physician and advised by dieteticians, or a personal menu ordered by the patient.

8) For home care, the system consists of transferring the food from the main unit storing freezer to small deep freezers mounted on wheels.

A team of nurses starts the distribution and service for the home care patients. These are not necessarily nurses. They might be a new category of non-medical personnel trained for this kind of service.

Another car assumes the collection of the nurses from the homes. It leaves the satellite clinic half an hour later and follows the same route as the mobile freezer. This way all the nurses will have half an hour to spend with the patient, heating the food, serving it and collecting the crockery after lunch.

9) Concerning the personnel food distribution, a main dining room will be provided with a kitchen and pantry in case of a monolithic design of satellite clinic. The kitchen will be

for preparing some special salads or hors d'oeuvres while the pantry is for heating the food.

The circulation is as follows:

A person enters the restaurant, passes all along a deep freezer where food is displayed, makes his choice, passes by the cash to pay his money, passes by the pantry, heats his meal and sits at a table.

But in case of horizontal spreaded units, personnel will be having its meals in small separate dining rooms, one in each unit.

ARCHITECTURAL PROGRAM

- Offices: chief of the dietary unit
  assistant
  chief dietetician
  secretary
  chief of the home care dietary section
  chief of purchasing - clerks - assistant - accountant - interview office
- Receiving area for the factory deep freezer
- Main storing deep freezer of the dietary unit, preferably on an elevated platform levelled with the mobile freezer floor to allow an easy horizontal transport of food.
- Sorting space
- Working areas
- Allocated cubicles for the freezers of all units with a table in front of every one for transfer and checking of the food before being carried to the units.

- Home care area: parking spots with elevated platforms for the preparation of home orders and easy handling in the mobile home freezers.
- Personnel area: horizontally, food might be sent in the unit's spreaded satellite clinic freezer; vertically, one parking spot with compact satellite clinic elevated platform.
- Feeding nurses working area
- Crockery preparation
- Cutlery preparation
- Crockery and cutlery store
- Washing area
- Stores for equipment and material
- Common spaces:
    - Entrance hall
    - Telephonist
    - Cafeteria
    - Lounge
    - Cloak rooms

THE COMMUNITY NURSING UNIT

OBJECTIVES: The nursing unit is directly responsible for "care" in all the different parts of the satellite clinic. It organizes and administers the care of the patient.

OBSERVATIONS: Table 9 shows that we in Canada have an increasing number of graduate nurses which means that we can afford to have the necessary number of nurses for our satellite clinics. Also we can rely on voluntary organizations that can partly help to supply assistants in the satellite clinic.

FUNCTIONS: To organize the care of the patients in the various units of the satellite clinic.

- To organize training courses adapted to the new types of health care provided in the various units.
- To coordinate all the separate units in the satellite clinic.

PROCEDURE: The physicians give in writing all their instructions concerning the patients referred to the different units in two copies, one is sent to the unit referred to, the other goes to the nursing unit. By this system, the nursing unit knows perfectly what is going on in each ward of the unit and the load of work for its staff.

PLANNING: I propose the community nursing unit to be divided into the following departments:

- Nursing administration
- Education section
- Social work section

This unit is geographically central to the whole satellite system. It is the place where most of the nurses meet, have lunch and participate in educational and social activities.

ARCHITECTURAL PROGRAM

Nursing administration:

Offices: Director of nursing

Secretary

Assistant director and financial supervisor

Recruiting director - personnel office

Education section:

2 lecture rooms

1 meeting room

1 classroom

4 teacher's room

1 reading room

1 stationery room

Social work section:

Director of social work

5 social work offices

2 clerks for typing

3 interviewing rooms

1 children play room

General services:

Receptionist

Entrance lobby

Cafeteria

Nurses main dining room (frozen food)

Pantry for sorting, serving counter

Main lounge

Five bedrooms with accomodations for the possibility of residing nurses.

One bedroom for coronary care assistance unit consisting of a sitting room, a kitchenette and the bedroom with bath. There is a nurse on duty 24 hours a day who receives the call from the patient's relatives, phones the cardiologist "on call" who goes to the patient, at the same time she moves her mobile ward to the patient's house so that in case of emergency the ward is ready in front of the house.

THE TRANSPORTATION UNIT

OBJECTIVES: To organize the mobility of the group practice clinic which is one of the main goals of the whole project "going to the patient" as much as possible and this needs a lot of transportation.

OBSERVATIONS: Three main motion systems:

Home to satellite clinic and home again (physio and occupational therapy).

Satellite clinic to home and back to satellite clinic: (Home care)

Satellite clinic to hospital: referred from the group practice.

All these systems of motion should be organized; personnel and equipment in the clinic are moving ones.

FUNCTIONS: To take charge of any kind of transport for all the units of the satellite clinic.

PROCEDURE: Any order for transport is a written order given by a unit chief. This order goes to the transportation unit which arranges the movement of all the mobile units of the satellite clinic and meets the urgent needs of the clinic for any transportation.

PLANNING: The transportation unit is an independant unit that could be geographically separate. It is mainly a garage and a service station.

ARCHITECTURAL PROGRAM

- Office of the transportation unit manager
- Telephonist and typist
- W.C. and services
- Garage for two station wagons
  two cars
  four transport trailers (mobile heart units)
  one truck for furniture transport
- Service station:
  two petrol pumps
  one repairing workshop
  car-wash area
  two hydraulic lifts
- Spare parts store
- Waiting area
- Account's office
- Two desks for mechanics.

THE PHYSICAL PLANT AND MAINTENANCE UNIT

OBJECTIVES: Covering all types of maintenance for all the satellite clinic units.

OBSERVATIONS: It is necessary to have a maintenance unit especially electrical, heating, ventilation and plumbing for the urgent cases that needs immediate action and cannot wait for delay.

FUNCTIONS: Maintenance and repair of:

All kinds of piping: electrical, air, plumbing, water.

All kinds of electrical domestic machines: air conditioner, etc.

PROCEDURE: - Any urgent repair is mentioned to the chief of the department who takes the necessary measures to achieve it.

- Any furniture equipment or machine coming to the satellite clinic should pass through the unit.
- Any order for a piece of furniture or machine is purchased by the unit.
- Any separate contract for repair or maintenance is done by this unit.

PLANNING: This unit should be independent with easy access to all units.

- The office for the chief maintenance unit
- Typist
- Purchasing office

Receiving and delivering area:

- receiving store
- delivery store
- miscellaneous store

Workshops:

- electricity
- heating and air conditioning
- plumbing

Spare parts store

CONCLUSION

GOALS REACHED

GOALS REACHED

1. Reduction of the outpatients load in the hospitals.
2. Delivery of health services within the community.
3. Familiarity of community members with their community medical staff.
4. Concentration of all the patient's attention on one point, the satellite clinic. He knows perfectly well that he cannot go to the hospital for any reason unless referred.
5. Planned medical services to meet community needs even if based upon rough estimates.
6. Creation of completely new approaches to health community problems.
7. Elaboration of architectural programs outlines.
8. Minimizing the geographical distance between the community and the hospital.
9. Minimizing the time loss waiting for medical services.
10. Concentrating on the patient as an individual.
11. Minimizing the psychological discomfort created by big institutions upon the patient's conditions.
12. Elimination of outpatients crowds from hospitals laboratories.
13. Concentration of treatment and care in the hospital.
    More time for physicians to treat the patient.
    More time for the nurse to take care of the patient.
14. Medical follow up covering the entire life span of the patient by referral and keeping medical records in the community.
15. Reducing the high costs of kitchen installation and staff.
16. Partly reducing the occupancy of chronic patients, convalescent cases and flu from hospitals beds.
17. Bringing physiotherapy within the community.
18. Planning the sanitary education of the community.
19. Reducing the start of the treatment period in case of heart attack by mobile coronary units.

BIBLIOGRAPHY

BOOKS

1) COUNCIL OF EUROPE. Methods to replace hospital services,1963.

2) DOMINION BUREAU OF STATISTICS. Canada Year Book 1969.

3) ENGEL, Arthur. Perspectives in Health planning.

4) HERMAN, Harold, McKAY, Mary Elisabeth. Community health services.

5) KILBOURNE and SMILLIE. Human Ecology and Public Health. Fourth edition, 1969.

6) LITTAUER, David, FLANCE, I.Jerome, WESSEN, Albert F. Home Care, 1961

7) MEREDITH, J.S., ANDERSON, M.A., PRICE, A.C. & LEITHEAD, J. Hostels in Hospitals, 1968.

8) Royal Commission on Health Services, Canada, 1965, Vol.II.

9) RUTSTEIN, David D. The Coming Revolution in Medicine, Copyright by David D. Rutstein, 1967.

10) TUNLEY, Roul. The American Health Scandal, 1966.

11) VINES, H.W.C. Introducing the hospital.

12) WALSH, Robert E. Your community hospital. Beacon Press, Boston, 1969.

13) WEED, Lawrence L., M.D. Medical Records, medical education and patient care. Distributed by Year Book Medical publishers Inc., 1970.

JOURNALS

14 - Royal Society of Health Journal, May/June 1970. Pre-cooked frozen food in Hospital Catering. G. GLEW.

15 - Methods of information in Medicine, January 1970. Towards Standardizing the Facesheet of Medical charts, COOK, G.B., p. 44
The Evaluation of Hospital Returns in Developing countries by DIESFELD, H.J., p. 27.

16 - Canadian Hospital Review, Nov. 69.

17 - Canadian Hospital Review, Aug. 69.

18 - Health Services Research, Vol. 5, number 1, Spring 1970.
Simulation of a Haematology Department by Gustave J. RATH, Jose M. Alvarez BALBAS, Tahehiko IKEDA, and O. George KENNEDY.
Health Care needs of the Aged, Robert L. BERG, Francis E. BROWNING, John G. HILL and Walter WENKERT.

19 - Lancet 1:614-617, 1969. Haemodialysis in the home. E.K.M. SMITH, S.S. McDONALD, J.R. CURTIS and H.E. DEWARDENER.

20 - Royal Infirmary Edingburgh. The place of the coronary care unit. M.F. OLIVER, M.D., FRCP Ed, MRCP, Department of Cardiology.

21 - Lancet N:7617, May 1970, page 1161. Screening for breast cancer. A Scottish survey.

22 - Lancet, N:7614, 1969, page 255.

23 - Speech of the U.S. Secretary of Health, Education and Welfare, 1968.

24 - Health Services Research, Vol. 4, No.3, Fall 1969.

Hospital Utilization and Cost Trends in Canada and the United States. Ronard ANDERSEN and John T. HULL.

Hospital costs and controls in Canada and in the U.S.A. From a summary paper presented at the Conference on the Hospital Reimbursement Program in Canada and its relevance in the U.S.A., p. 170.

25 - Notes on Public Health and Preventive medicine. Department of Public Health, University of Toronto.

26 - **Design Guide for Medical Group Practice Centres.**
A study by the National Building Agency, incorporating given at a symposium held on 3rd June 1966 at the College of General Practitioners London.

* On page 171, reference Bibliography book no. 7, chapter 3 and page 61, line 27-28-29.

The following table shows the satellite clinic complete program with the number of personnel involved as well as the areas needed. However areas, being a very personal variant depending mainly on the architect's and the client's point of views together I tried as much as possible to categorize them in three categories Large, Medium and Small. As for the laboratories, the specific areas will be dependant upon the specific instruments needed and these instruments are so varied and their models are so up to date that assuming any area to-day might lead to an error or an inadequacy for the future needs. Also the investigation unit might not be included in the satellite clinic for specific reasons which will make it more convenient to use the existing laboratories of some hospitals that will be directly dependent on the satellite clinic.

Finally it is very important for the reader to consider this compact program figurative and flexible. In no way should he stick to it as a base for specifying his areas. The idea of this compact program is to give the reader a full scope of the satellite clinic to make it possible for architects to have a program as a start for future researches to cristallize the idea into definite areas with definite needs which could represent another research in this field.

CODES

S = 100 to 120 sq. ft.
M = 120 to 160 sq. ft.
L = 160 to 220 sq. ft.

P = Personnel
V.A. = Variable area
V.P. = Variable personnel
Ap. = Approximately

GROUP PRACTICE UNIT

Identification of the area	Approximate area in sq.ft.	Personnel
Reception area		
Entrance hall	80	
Receptionist counter	S	1
Telephonist area	S	1
Secretary's office	M	1
Staff room	M	2
Waiting area		
15 sq.ft. per chair, about 20 chairs for 10,000 people	300	
Children area	L	
Consulting room		
About 100 to 120 sq. ft. (4 x 120)	480	4 doctors for 10,000 people
Nurses' room	2 S	2 assistant nurses
Examining room		
About 50 to 80 sq. ft. each (4 x 80)	320	
Private washrooms (4 x 35)	140	
Nurse-treatment room		
About 190 to 220 sq. ft.	220	2
Waiting area	M	
Examination room	S	
Dispensary		
About 200 to 240 sq. ft.	240	1
Cashier	-	1
Storage	S	
Waiting	M	
Staffroom		
15 to 20 sq. ft. for every staff member about 15 staff members for 10,000 people (15 x 20)	300	
Bedroom for G.P.	L	
Cleaner's store	15)	1
General storage room	60)	
Kitchenette	90	-
Extra office for health visitor	100	-
Cloak room for men and women staff ap. 60 sq. ft. each	120	-
Medical records store	M	-

Meter cupboard	S	-
Incinerator	M	-
Messenger's room	Ap.60 sq.ftt	1

Totals of used space in sq. ft.

Areas:		2525
S	: 7 x 110 =	770
M	: 6 x 140 =	840
L	: 2 x 190 =	380
P	: 17	

Grand totals: Areas: 4,515 sq.ft.
Personnel: 17

HOME CARE UNIT
Assuming a load of 80 patients for 30,000 people

Identification of the area	Approximate area	Personnel
Medical director	M	1
Director of nursing	M	1
Social worker	M	1
Service section director	M	1
Secretary	S	1
Two typists	M	2
Liaison officer	M	1
Finance manager	M	1
Clerks	M	2
Secretary of finance	S	1
Telephonist	S	1
Conference room	L	-
Interview office	M	-
Services section		
Chief	M	1
Secretary	S	1
Physician	M	1
Office for three nurses	L	3
Social worker	S	1
Office for three persons Physiotherapist Occupational therapist Housekeeper	L	3
Three stores for mobile equipment	3 L)	1
Store for units needs	L)	
Two interviewing rooms	2 M	
Drivers' rooms	2 S	2
Garage for two station wagons	2 L	

Totals of used space in sq. ft.

S: 7 x 110 = 770
M: 13 x 140 = 1,820
L: 9 x 190 = 1,710
P: 26

Grand total: Area: 4,300 sq. ft.
Personnel: 26

HOME CARE UNIT
Assuming a load of 80 patients for 30,000 people

Identification of the area	Approximate area	Personnel
Medical director	M	1
Director of nursing	M	1
Social worker	M	1
Service section director	M	1
Secretary	S	1
Two typists	M	2
Liaison officer	M	1
Finance manager	M	1
Clerks	M	2
Secretary of finance	S	1
Telephonist	S	1
Conference room	L	-
Interview office	M	-
Services section		
Chief	M	1
Secretary	S	1
Physician	M	1
Office for three nurses	L	3
Social worker	S	1
Office for three persons Physiotherapist Occupational therapist Housekeeper	L	3
Three stores for mobile equipment	3 L)	1
Store for units needs	L)	
Two interviewing rooms	2 M	
Drivers' rooms	2 S	2
Garage for two station wagons	2 L	

Totals of used space in sq. ft.

S: 7 x 110 = 770
M: 13 x 140 = 1,820
L: 9 x 190 = 1,710
P: 26

Grand total: Area: 4,300 sq. ft.
Personnel: 26

INVESTIGATION UNIT

This unit could be considered for two or three satellite clinics or it could be the existing laboratories of a hospital.

Identification of the area	Approximate area in sq.ft.	Personnel
Haematology section		
Blood coagulation lab	V.A.	V.P.
Routine lab	V.A.	V.P.
Special lab	V.A.	V.P.
Blood bank	V.A.	V.P.
Offices:		
Chief section	M	1
Examining room	S	-
Chief technician	M	1
Biochemistry		
Main "urine lab"	V.A.	V.P.
Lab for blood	V.A.	V.P.
Small lab for chief section	L	-
Offices:		
Chief section	M	1
Chief technician	M	1
Examining room	S	-
Bacteriology section		
Main lab	V.A.	V.P.
Culture room	V.A.	V.P.
Offices:		
Chief section	M	1
Chief technician	M	1
Radiology		
Pre-X-ray:		
Appointment office	M	1
Receptionist	L	1
Waiting area	L	-
Two X-ray rooms	2 L	2
Three dressing rooms	3 S	-
Two enema rooms	2 S	-
Two w.c.	2 S	-
Post X-ray:		
Dark room	S)	
Developing room	M)	1
Filing room	M)	
Observing room for X-ray study	L	
Store for material	M)	1
Store for equipment	L)	

Offices:		
Chief radiologist	M	1
Two assistant radiologists	2 S	2
Two examining rooms	2 S	-
Personnel:		
Cloakroom	S	
Cafeteria	L	
Heart investigation section		
Physician's office	M	1
Consulting room	M	-
Examining room	S	-
Testing room	S	-
Dressing room	S	-
Common area		
Appointment clerck-telephonist	2 S	1
Receptionist	L	1
Offices:		
Chief of labs	M	1
Secretary	M	1
Typist	S	1
Accounts	S	1
Chief technician	M	1
Dispatcher	S	1
Stores		
Three stores for the three sections	3 L	-
Public		
Waiting room	L	-
Samples procurement room	M	-
Public bathrooms	3 S	-
Personnel		
Cloak rooms,two: men - ladies	2 M	-
Cafeteria	L	-

Totals of used space in sq.ft.

S: 26 x 110 = 2,860
M: 19 x 140 = 2,660
L: 14 x 190 = 2,660

V.A. = 8
P = 24
V.P. = 8

Grand totals: Area: 8,180 sq.ft. + ?
Personnel: 24 + ?

DAY OBSERVATION UNIT

Identification of the area	Approximate area in sq.ft.	Personnel
Medical ward for twenty beds	20 S	
Washrooms & baths	10 S	
Nursing station	L	2
Solarium for twenty armchairs	10 S	
Small library	M	
Kitchenette	M)	
Dirty kitchen	S)	
Store	M)	1
Utility room	M)	
Linen store	S)	
Miscellaneous store	M)	

Totals of used space in sq. ft.

S: 42 x 110 = 4,620
M: 5 x 140 = 700
L: 1 x 190 = 190
P: 3

Grand totals: Area: 5,510 sq. ft.
Personnel: 3

THE NIGHT CLINIC

This could be the group practice unit

Personnel: 3 nurses

THE COMMUNITY ADDICTION UNIT

Identification of the area	Approximate area in sq.ft.	Personnel
Ward for 10 beds	10 S	2
Services	5 S	1

Totals of used space in sq. ft.

S: 15 x 110 = 1,650
P: 3

Grand totals: Area: 1,650 sq.ft.
Personnel: 3

THE CORONARY FIRST ASSISTANCE UNIT

Two mobile units	-	2 nurses 1 doctor

Grand totals: Area: Two mobile units
Personnel: 3

THE COMMUNITY HEALTH MAINTENANCE UNIT

It depends on the program to be applied and its magnitude.

THE MEDICAL RECORDS UNIT

Identification of the area	Approximate area in sq.ft.	Personnel
Movement section		
Collecting:		
Two offices for personnel	2 M	2
One office for typist	S	1
One filing office	S	
Sorting:		
One room for sorting	L	2
Stacks:		
Area about 500 sq.ft.	500	1
Requisition:		
Two offices	2 S	2
Analysis		
Compilation:		
Two offices	2 M	2
Resulting:		
Two offices	2 M	2
Programming:		
Two offices	2 M	2
Computers:		
Two rooms	2 M	2
Planifying:		
Three offices	3 M	3
One drawing room	L	1

Totals of used space in sq.ft.
Area: 500
S: 4 x 110 = 440
M: 13 x 140 = 1820
L: 2 x 190 = 380
P: 20

Grand totals: Area: 3,140 sq.ft.
Personnel: 20

THE CONVALESCENT UNIT

Identification of the area	Approximate area in sq.ft.	Personnel
Acute convalescent		
Four rooms	4 L	-
Four baths	4 S	-
Three rooms	3 L	-
Two rooms	2 M	-
Two baths	2 S	-
Chronic convalescent		
Six single rooms	6 M	-
Common area:		
Lounge and pantry	300	-
Porter's station	M	1
Wheelchairs alcove	M	-
General office	M	1
Administration office	M	1
Staff changing room	M	-
Nurses' station	L	3
Treatment room	L	-
Utility room	M	-
Dispensary	L	1
Disposals	M	1
Supplies store	L)	1
Equipment store	L)	

Totals of used area in sq.ft.

Area:	300	=	300
S:	6 x 110	=	660
M:	15 x 140	=	2,100
L:	12 x 190	=	2,280
P:	9		

Grand totals: Area: 5,340 sq.ft.
Personnel: 9

THE REHABILITATION UNIT

Identification of the area	Approximate area in sq.ft.	Personnel
Physiotherapy		
Chief physiotherapist	M	1
Secretary	S	1
Waiting room	3 L	-
Receptionist	S	1
Consulting room	M	-
Examining room	S	-
Dressing room for patients	2 L & 2 L	-
Gymnasium	1,000)	
Hydrotherapy gym	600)	5
3 Electrotherapy rooms	3 M)	
Cloak room for patients	2 M	
Store for equipment	2 L	-
Physiotherapists	2 S	2
Occupational Therapy		
Chief	M	1
Secretary	S	1
Waiting	2 L	-
Reception	S	1
Examining rooms	S	-
Two workshops (2 x 350)	700	-
Artists studio	250	1
Cloakroom	2 M	-
Control office	M	1
Three rooms for teachers	3 S	3
Three stores	3 M	1
Exhibition gallery	300	-

Totals of used space in sq.ft.

Areas:		2,600
S:	11 x 110 =	1,210
M:	14 x 140 =	1,960
L:	11 x 190 =	2,090
P:	19	

Grand totals: area: 7,860 sq.ft.
Personnel: 19

THE EXECUTIVES WARD

Identification of the area	Approximate area in sq.ft.	Personnel
Receptionist	S	1
Telephonist	S	1
Six single-bed rooms	6 M	-
Six annexed offices	6 L	-
Common services		
Nursing station	L	2
Utility room	M	-
Linen room	M	-
General control room for heart monitors	M	1
E.C.G. room	M	1
Physician consulting room	M	1
Examining room	S	-
Services		
Xerox room for documents	M	1
Store for electronic equipment	L	1
General areas		
Pantry	M	
Cafeteria	2 L	
Main lounge	5 L	
Solarium	2 L	
Reading	2 L	

Totals of used space in sq.ft.

S:	3 x 110 =	330
M:	13 x 140 =	1,820
L:	19 x 190 =	3,610
P:	9	

Grand totals: Area: 5,760 sq.ft.
Personnel: 9

THE FLU WARD

Identification of the area	Approximate area in sq.ft.	Personnel
Two wards of five beds	10 S	-
Two single-bed rooms, isolation	2 S	-
Nursing station	L	3
Services	5 S	-
Bedroom for duty nurse	M	-
Physician examining room	M	1
Pantry	M	-
Dining room for 15 persons	250	1
Lounge	250	
Solarium	2 L	
Cafeteria	2 L	
Reading room	2 L	

Totals of used space in sq.ft.

Areas:		500
S:	17 x 110 =	770
M:	3 x 140 =	420
L:	7 x 190 =	1,330
P:	5	

Grand totals: Area: 3,020 sq.ft.
Personnel: 5

THE EDUCATION UNIT

Identification of the area	Approximate area in sq.ft.	Personnel
Receptionist	S	1
Interviewing room	S	1
General director of education	L	1
Four chief offices	4 M	4
Four secretaries	4 S	4
Four assistant offices	4 S	4
Seven stores	7 L	1
Printing office	L	1
Stationery	L	1
Conference hall (auditorium)	V.A.	-
Projection room	L	1
Meeting room	2 L	-
Cafeteria	2 L	-
Exhibition gallery	3 L	-
The Club:		
Main hall	L	-
Medical library	2 L	1
Activity rooms	2 L	1
Noisy games	2 L	-
Adults gymnasium	V.A.	1
Swimming pool	V.A.	1
Artists' studio	2 L	1

Totals of used space in sq.ft.

S:	10 x 110 =	1,100
M:	4 x 140 =	560
L:	27 x 190 =	5,130
V.A.:	3	
P:	24	

Grand totals: Area: 6,790 sq.ft. + 3 V.A.
Personnel: 24

Identification of the area	Approximate area in sq.ft.	Personnel
Chief	M	1
Assistant	S	1
Secretary	S	1
Chief home care	M	1
Chief purchasing	M	1
Clerks	M	2
Assistant	S	1
Accountant	S	1
Interview office	S	-
Receiving area	V.A.)	
Main storing deep freezers	V.A.)	
Sorting space	V.A.)	
Working areas	V.A.)	
Allocated cubicles units	V.A.)	
Home care area	V.A.)	V.P.
Personnel area	V.A.)	
Feeding nurses working area	V.A.)	
Crockery preparation	2 L	2
Cutlery preparation	2 L	-
Crockery and cutlery store	2 L	-
Washing area	3 L	2
Stores for equipment	V.A.	1
Common spaces		
Entrance hall	150	-
Telephonist	S	1
Cafeteria	2 L	-
Lounge	2 L	-
Cloak rooms	2 M	-

Totals of used spaces in sq.ft.

Areas:	150 sq.ft.	
S:	6 x 110 =	660
M:	6 x 140 =	840
L:	13 x 190 =	2,470
V.A.:	8	
P:	15	
V.P.	8	

Grand totals: Area: 4,120 sq.ft. + 8 V.A.
Personnel: 15 + 8 V.P.

THE COMMUNITY NURSING UNIT

Identification of the area	Approximate area in sq.ft.	Personnel
Offices:		
Director of nursing	M	1
Secretary	S	1
Assistant director	S	1
Recruiting director	L	1
Education:		
Two lecture rooms	2 L	
Meeting room	L	
Classroom	L	
Four teachers' room	4 S	4
Stationery	M	
Social work:		
Director	M	1
Five social workers' offices	5 S	5
Two clerks offices	2 S	2
Three interviewing offices	3 M	
Children playroom	L	
General:		
Receptionist	S	1
Lobby	L	
Cafeteria	2 L	
Nurses' main dining	3 L)	
Pantry	2 L)	1
Main lounge	3 L)	
Five bedrooms	5 L	
Bedroom	L	

Totals of used space in sq.ft.

S: 14 x 110 = 1,540
M: 6 x 140 = 840
L: 23 x 190 = 4,370
P: 18

Grand totals: Area: 6,750 sq.ft.
Personnel: 18

THE TRANSPORTATION UNIT

Identification of the area	Approximate area in sq.ft.	Personnel
Manager	M	1
Telephonist	S	1
Garage for:		
Two station wagons	3 L	2
Two cars	2 L	2
Four trailers (coronary)	8 L	4
One truck	2 L	1
Service station:		
Two petrol pumps	120	1
One workshop		2
Carwash area		2
Two lifts		
Spare parts store	4 L	1
Waiting area	L	-
Accounts	2 S	2
Two desks for mechanics	2 S	

Totals of used space in sq. ft.

Areas:		1,200
S:	5 x 110 =	550
M:	1 x 140 =	140
L:	20 x 190 =	3,800
P:	19	

Grand totals: Area: 5,690 sq.ft.
Personnel: 19

THE PHYSICAL PLANT

Identification of the area	Approximate area in sq.ft.	Personnel
Chief	M	1
Purchasing office	M	1
Receiving store	4 L	1
Delivery store	2 L	1
Miscellaneous store	4 L	1
Workshops:		
Electricity	L	2
Heating and air cond.	L	2
Plumbing	L	2
Spare parts store	L	1

Totals of used space in sq.ft.

M: 2 x 140 = 280
L: 14x 190 = 2,660
P: 12

Grand totals: Area: 2,940 sq.ft.
Personnel: 12

LIST OF AREAS AND PERSONNEL

	AREAS	PERSONNEL
GROUP PRACTICE UNIT	4,515	17
HOME CARE UNIT	4,300	26
INVESTIGATION UNIT	8,180	24
DAY OBSERVATION UNIT	5,510	3
NIGHT CLINIC	-	3
COMMUNITY ADDICTION UNIT	1,650	3
CORONARY FIRST ASSISTANCE UNIT	-	3
COMMUNITY HEALTH MAINTENANCE UNIT	-	-
MEDICAL RECORDS UNIT	3,140	20
CONVALESCENCE UNIT	5,340	9
REHABILITATION UNIT	7,860	19
EXECUTIVE WARD	5,760	9
FLU WARD	3,020	5
EDUCATION UNIT	6,790	24
DIETARY UNIT	4,120	15
COMMUNITY NURSING UNIT	6,750	18
TRANSPORTATION UNIT	5,690	19
PHYSICAL PLANT	2,940	12
	75,565 sq.ft.	229

Table 1

D I A G R A M I - OP

COMPARATIVE FLUCTUATIONS BETWEEN TOTALS OF DIFFERENT LABORATORY WORKS.

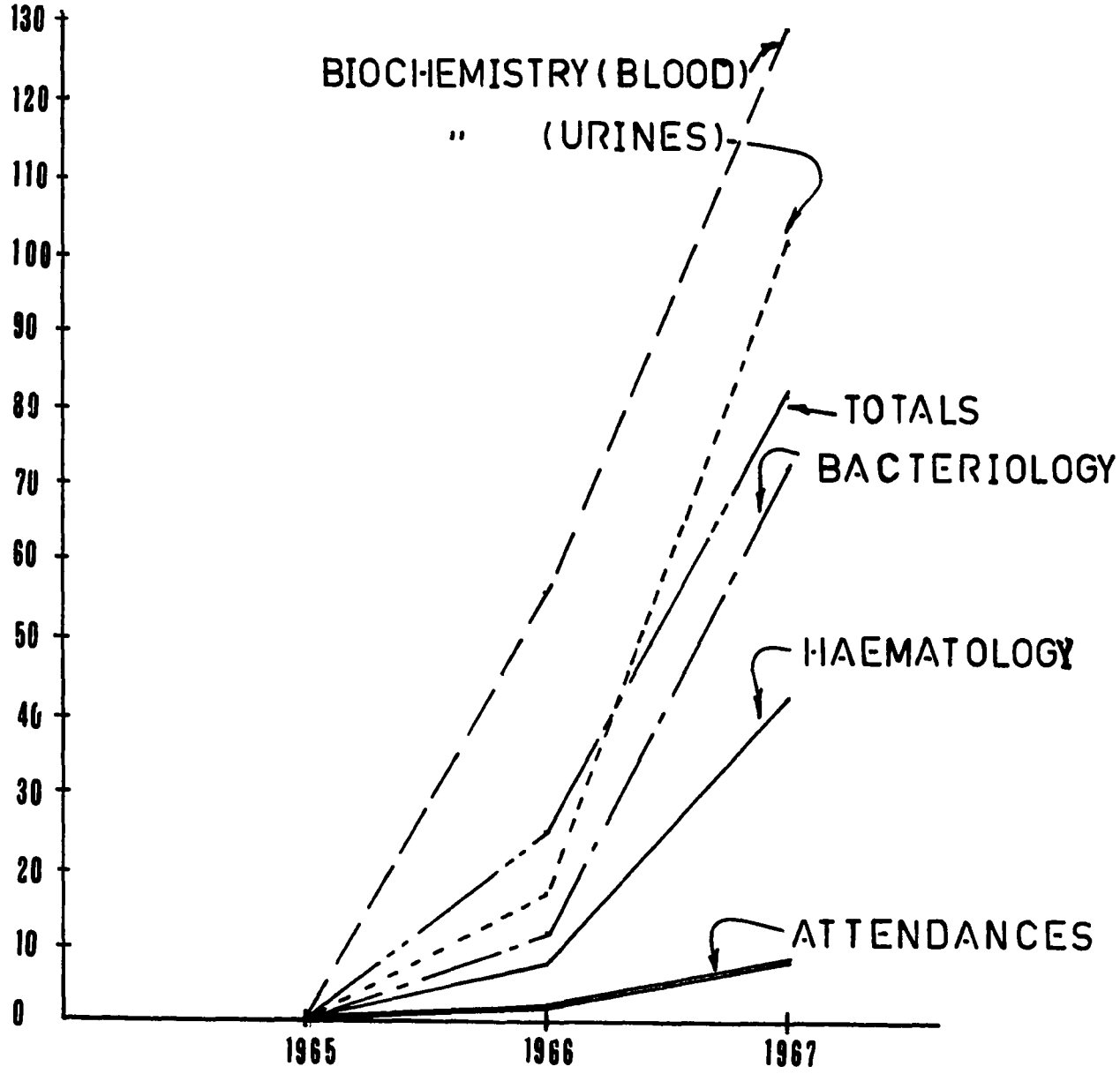


Table 2

D I A G R A M 2 - OP

COMPARATIVE FLUCTUATIONS BETWEEN ATTENDANCES AND MEDICAL SERVICES (X RAYS) (LABORATORIES) (OPERATIONS)

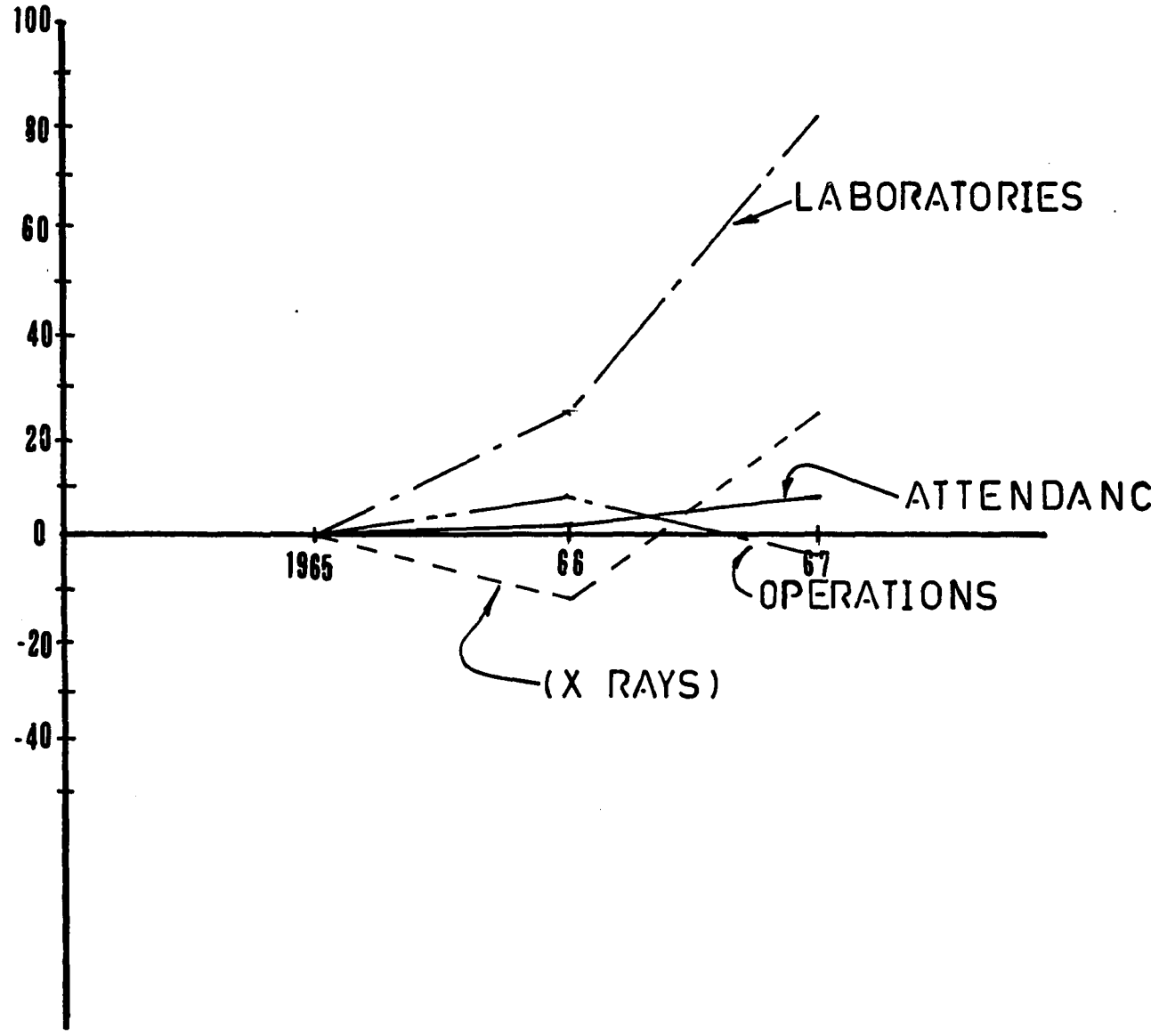


Table 3

D I A G R A M 3 - OP

COMPARATIVE FLUCTUATION BETWEEN X-RAY

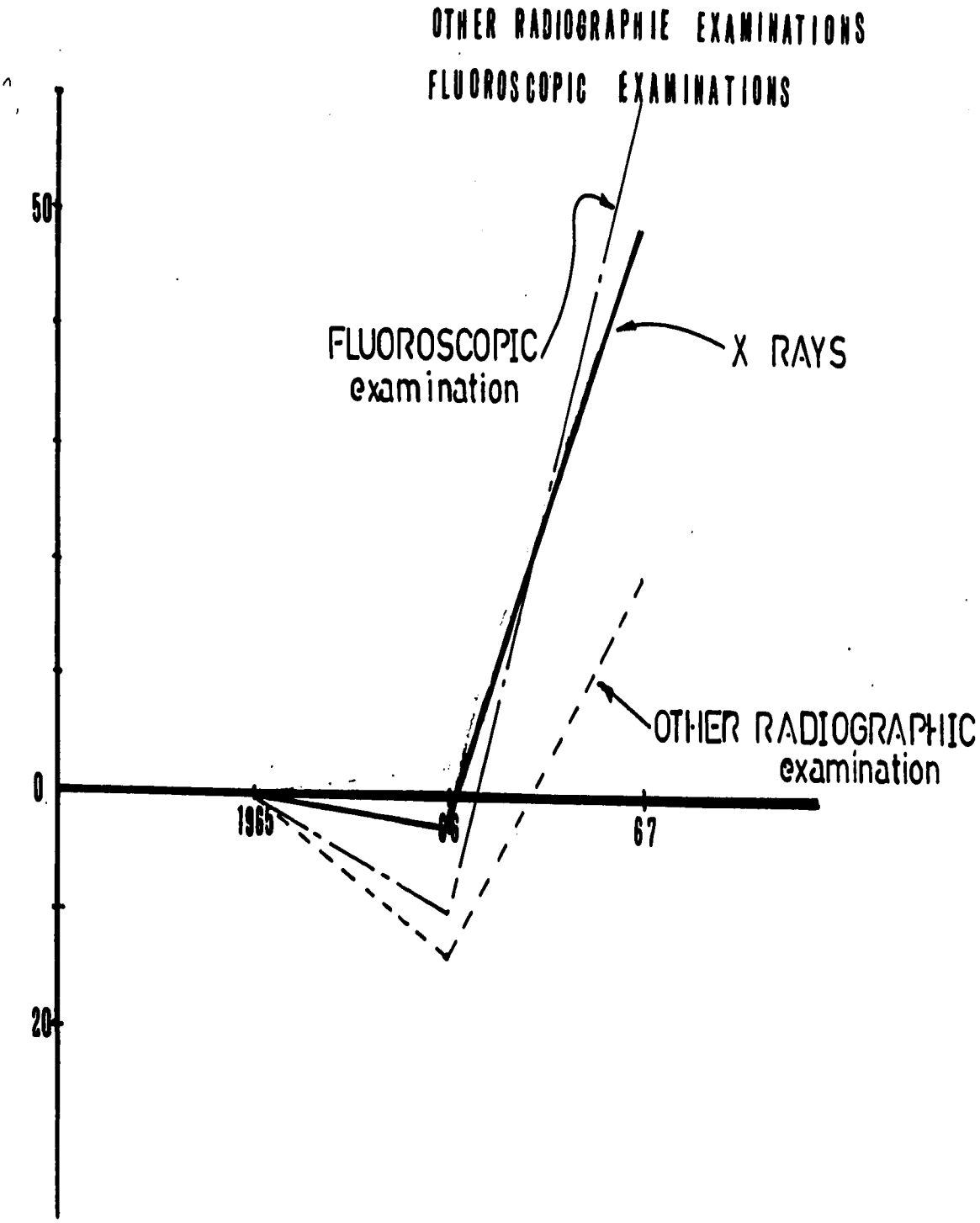


Table 4

D I A G R A M 4 - OP

COMPARATIVE FLUCTUATION BETWEEN THREE MAIN CURVES

IN PATIENTS ADMISSIONS (hospitalistion)

OUT PATIENTS " (attendance only)

EMERGENCY " (attendance only)

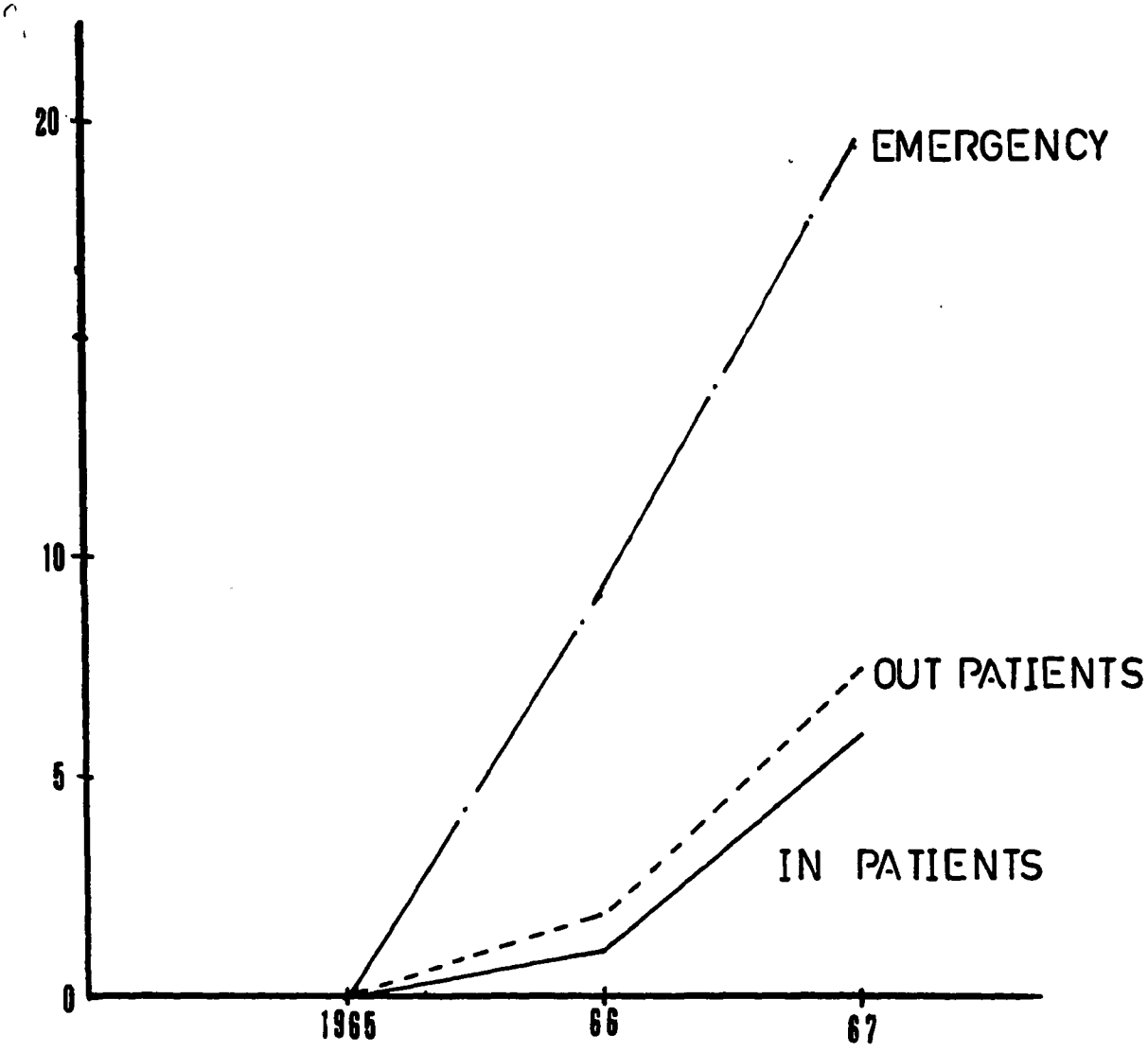
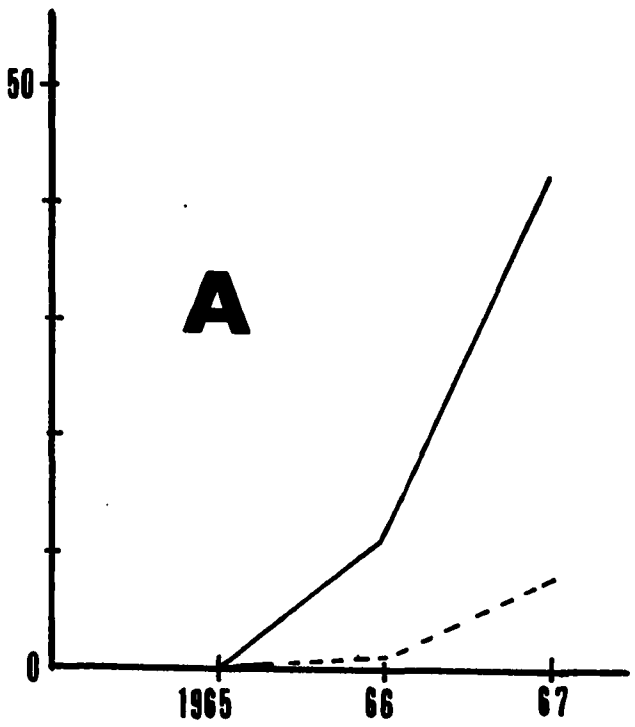


Table 5 DIAGRAM 5 - OP

A - COMPARATIVE FLUCTUATION BETWEEN PHYSIOTHERAPY AND OUT-PATIENTS

B - " " " " " IN - PATIENTS



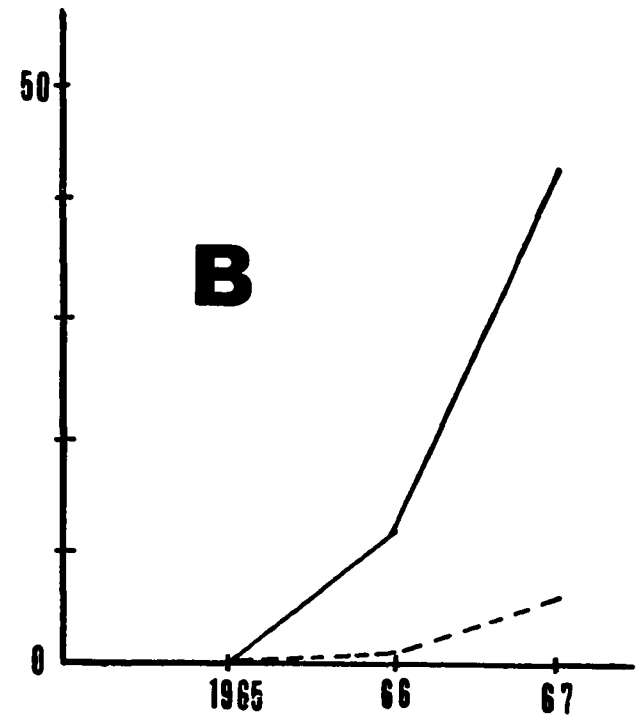


Table-6

D I A G R A M 6 - OP

COMPARATIVE FLUCTUATIONS BETWEEN: A - TOTAL NUMBER OF PATIENT-DAYS
B - TOTAL NUMBER OF ADMISSIONS
C - TOTAL NUMBER OF BEDS

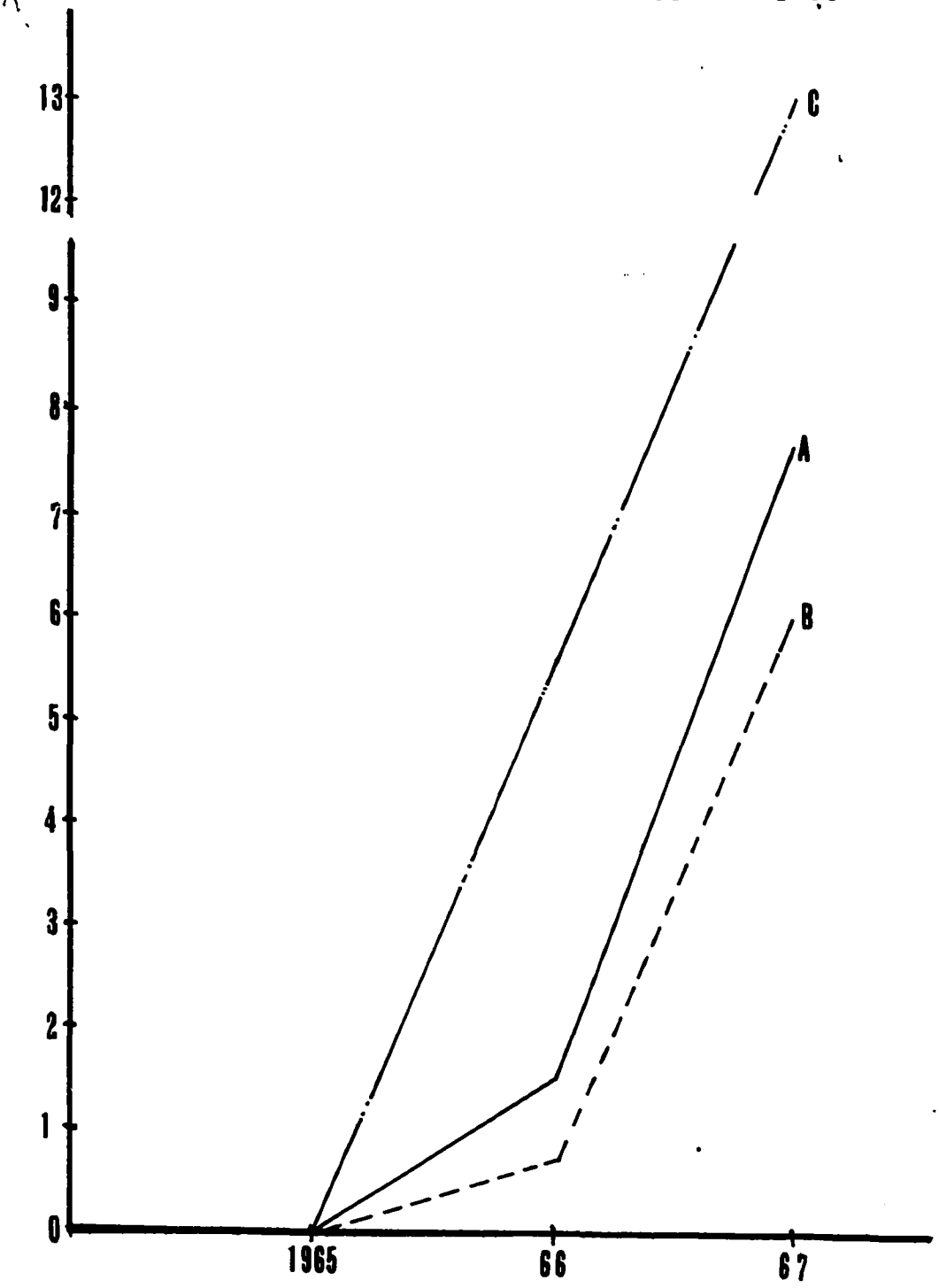


Table - 7

D I A G R A M 7 - OP:

GENERAL COMPARATIVE FLUCTUATION BETWEEN ALL THE CONCERNED SERVICES FOR OUT-PATIENTS AND THE ATTENDANCES.

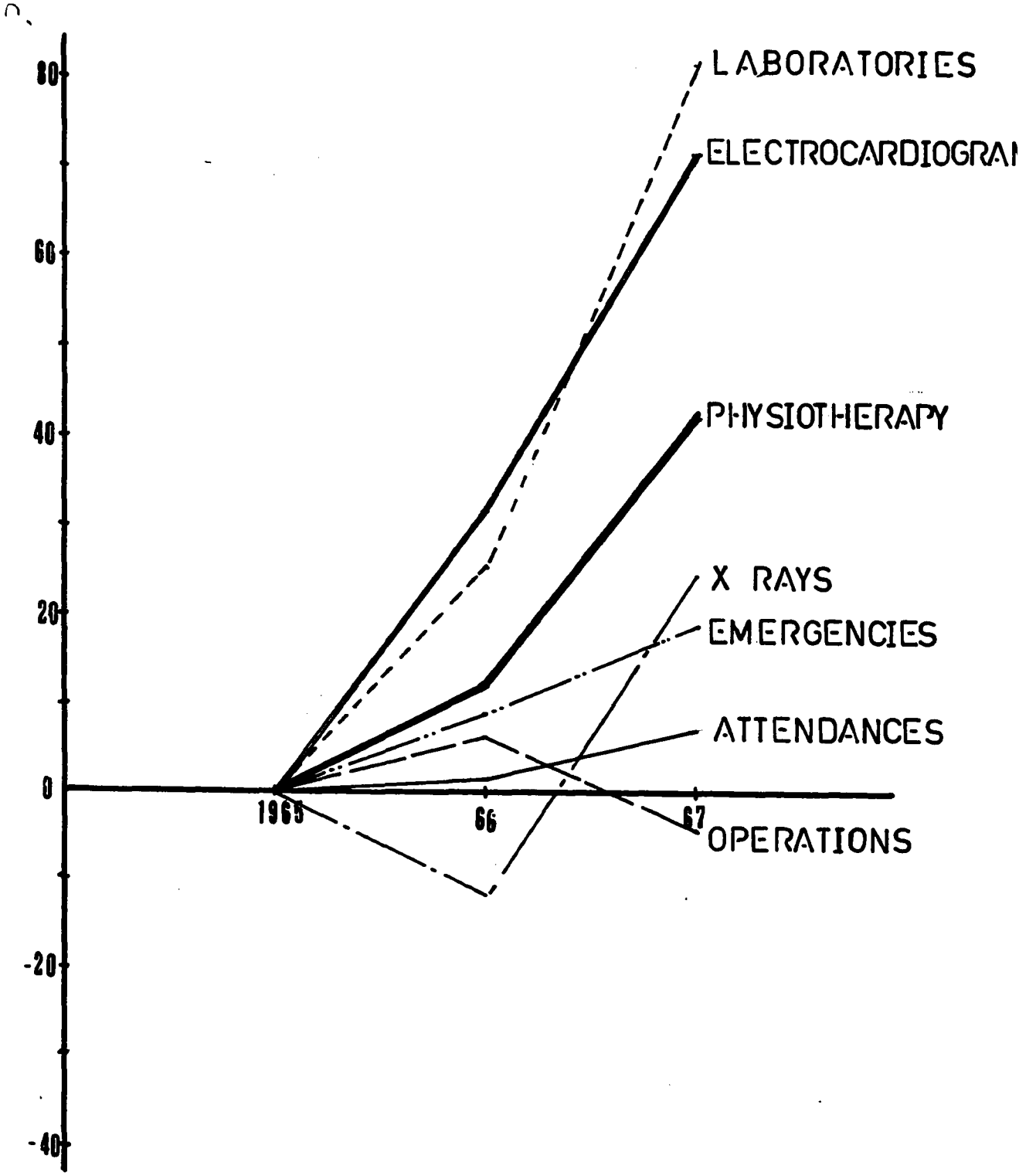


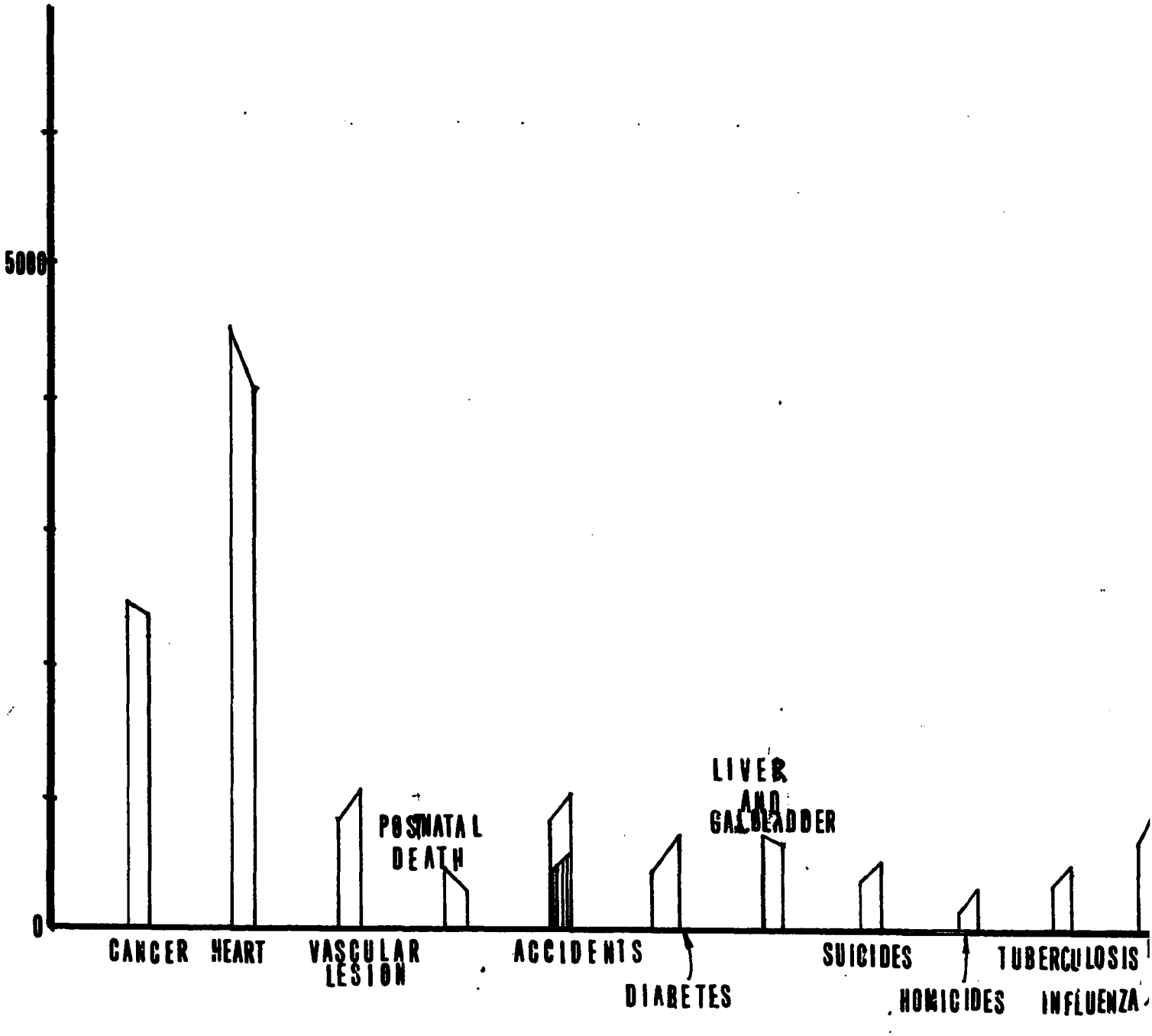
Table - 8

D I A G R A M 8 - OP

COMPARATIVE MORTALITY RATE IN MONTREAL

1968-1969

FROM THE ANNUAL PRELIMINARY REPORT OF MR- ANDRE COURNOYER DIRETOR OF HEALTH SERVICES FOR THE CITY OF MONTREAL



DEPARTMENT OF HEALTH

HOSPITAL INSURANCE DIRECTORATE

FINANCIAL SERVICES

	1964	1965	1966	1967	1968
a) Total number of beds under contract with H.I.D. including private and federal hospitals	34,943	36,216	36,657	37,885	38,420
b) Total expenses for in-patients (responsibity of H.I.D.	$236,744,299.	$281,441,865.	$344,568,666.	$380,335,213.	$461,588,176.
c) Total number of personnel	65,166	73,500	78,308	82,163	84,950
d) Total number of admissions in-patients (all hospitals) excluding new-born	793,441	801,492	798,146	787,552	808,385
e) Technical units - Laboratory	36,271,762	42,944,579	51,758,628	52,752,248	69,025,405
f) Number of X-Rays films (average of 3 films per examination	5,405,979	5,999,683	6,428,457	6,167,721	8,457,845
g) Number of prescriptions	N/A	N/A	N/A	N/A	N/A
i) Number of visits, treatments and examinations for out-patients excluding laboratory examinations	639,944	796,303	1,740,723	1,980,614	3,086,449

AVB/mbh

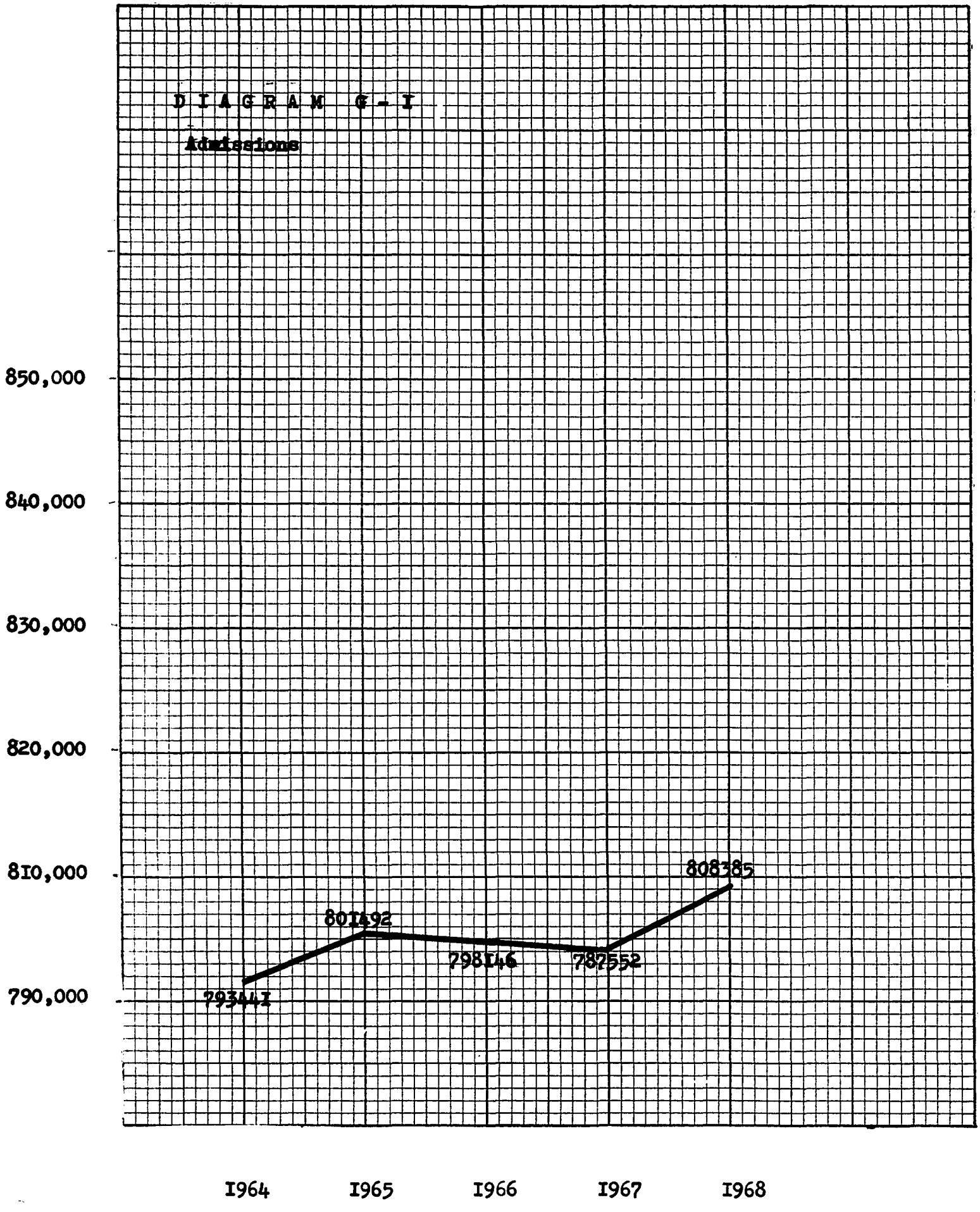


DIAGRAM G-I
Admissions
850,000
840,000
830,000
820,000
810,000
790,000
793441
801492
798146
787552
808385
1964
1965
1966
1967
1968

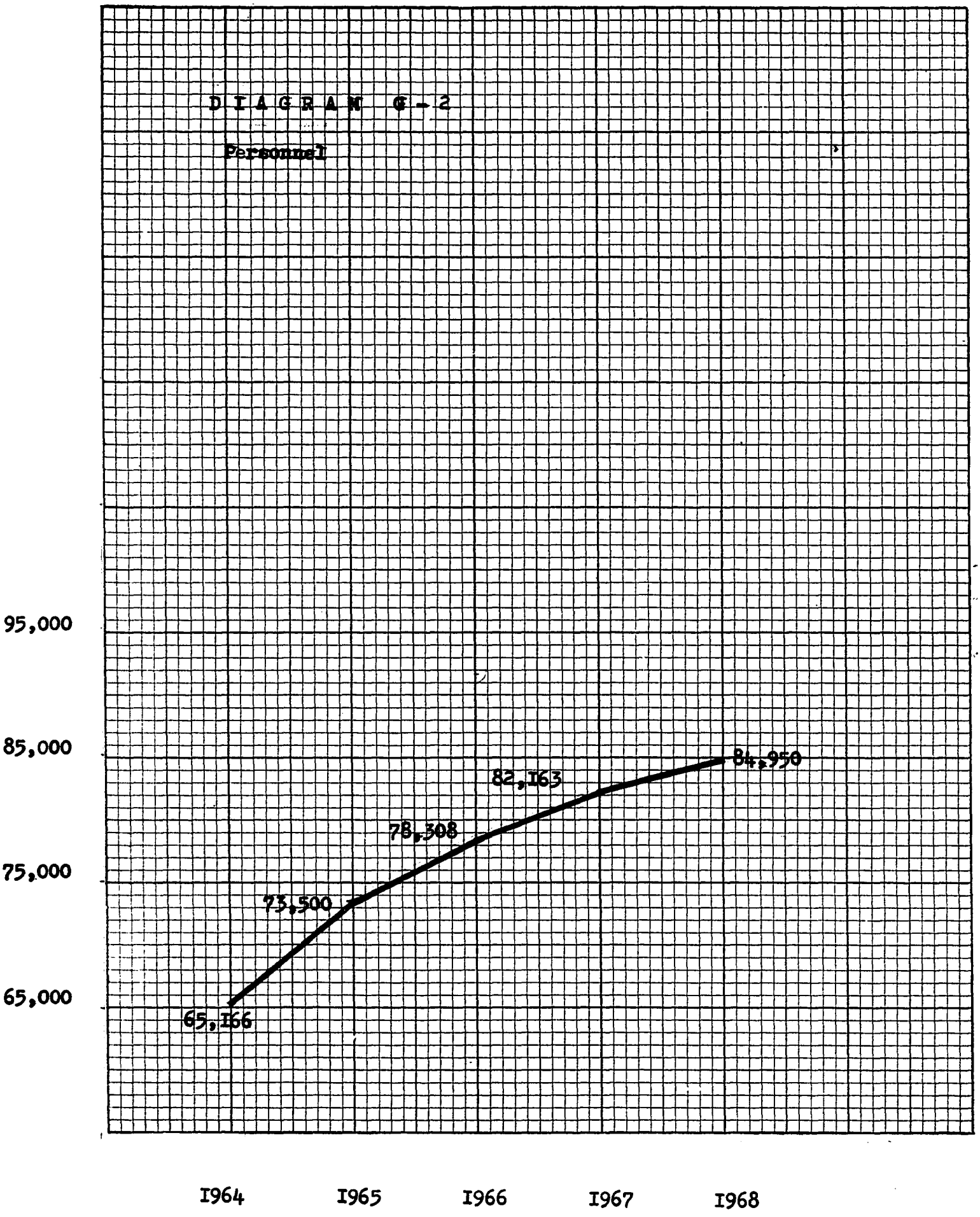
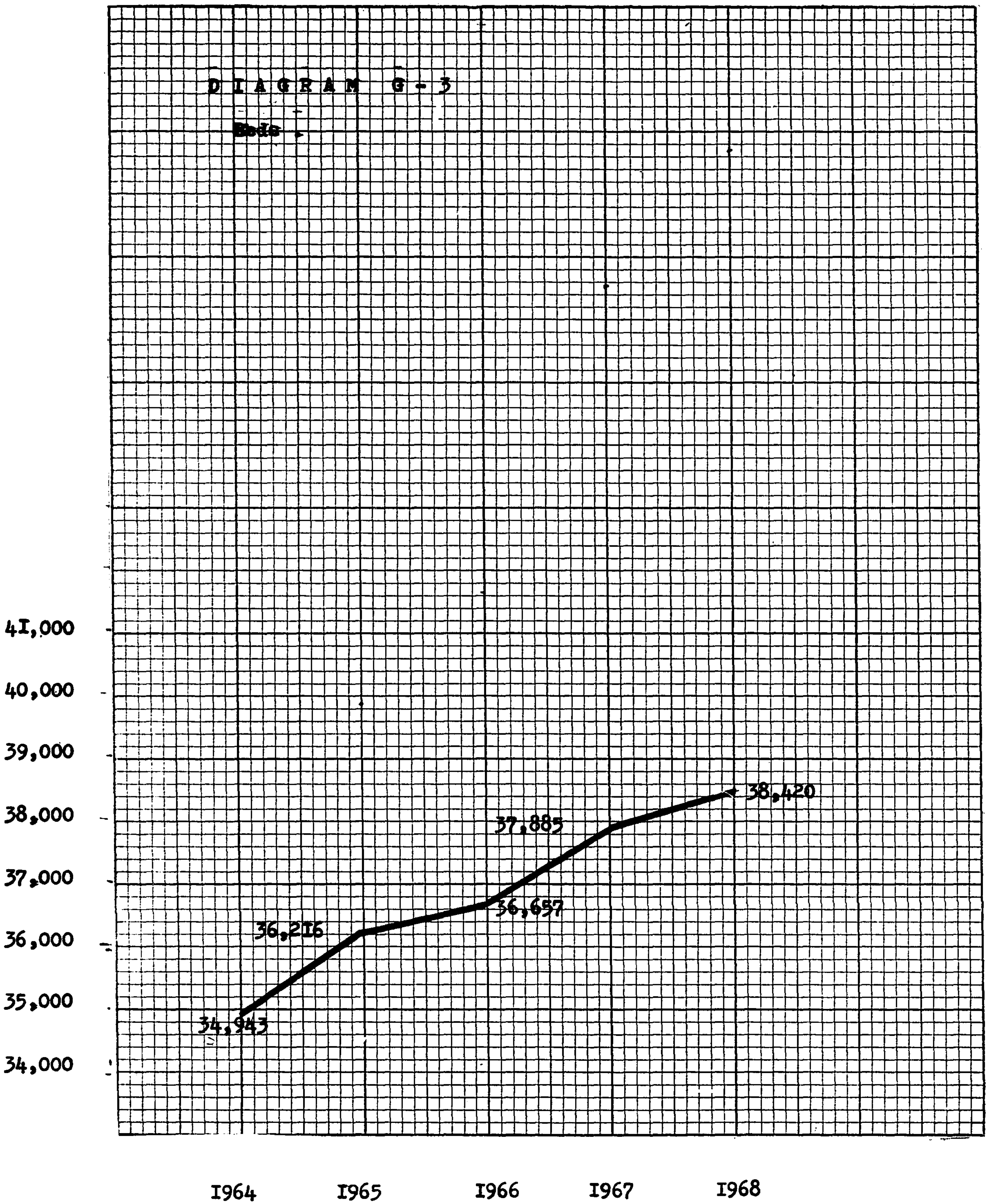


DIAGRAM C-2
Personnel
95,000
85,000
75,000
65,000
65,166
73,500
78,308
82,163
84,950
I964
I965
I966
I967
I968


D I A G R A M G - 3
Beds
41,000
40,000
39,000
38,000
37,000
36,000
35,000
34,000
34,943
36,216
36,657
37,885
38,420
1964
1965
1966
1967
1968

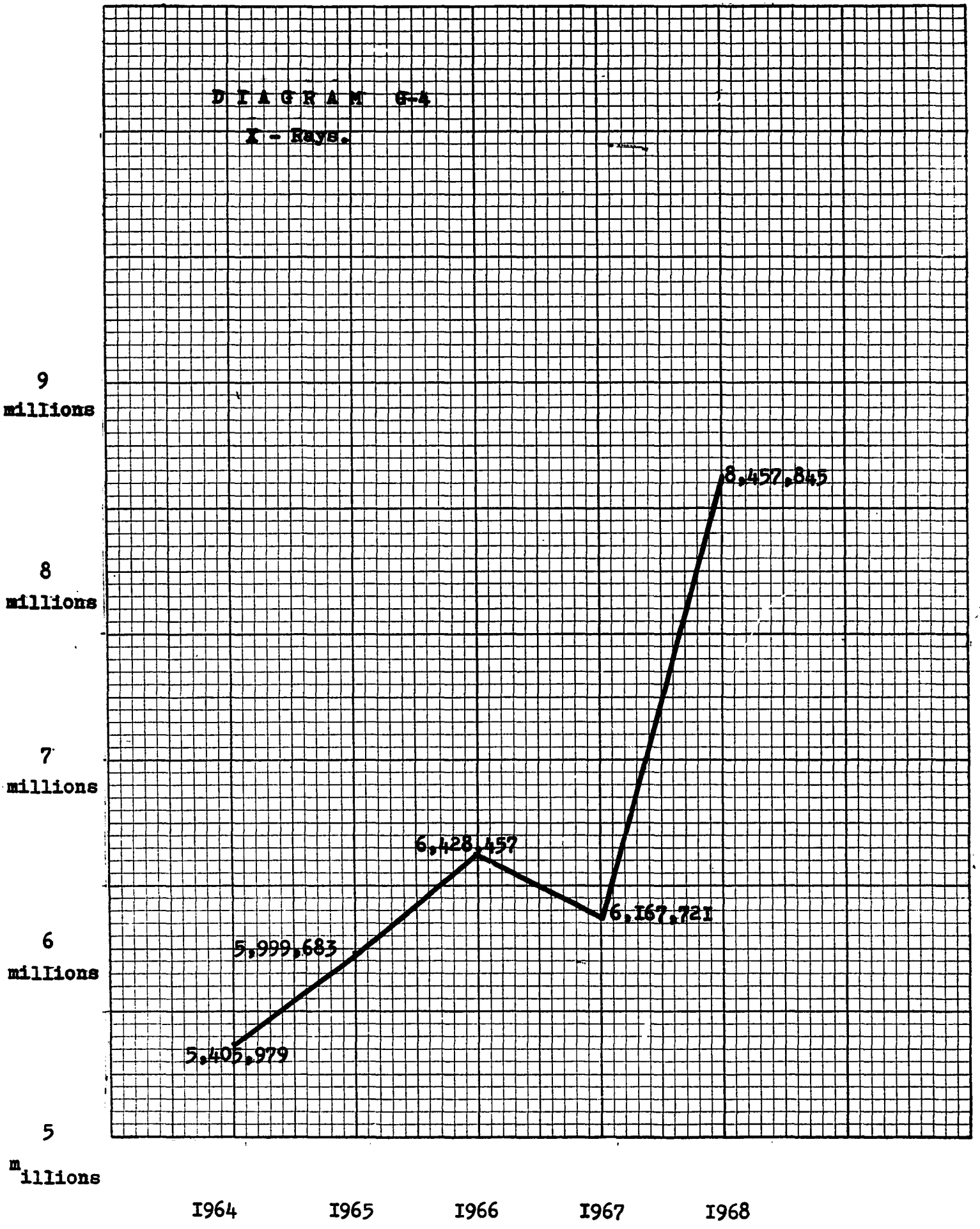


DIAGRAM 6-4
X - Rays.
9 millions
8 millions
7 millions
6 millions
5 millions
8,457,845
6,428,457
6,167,721
5,999,683
5,405,979
1964
1965
1966
1967
1968

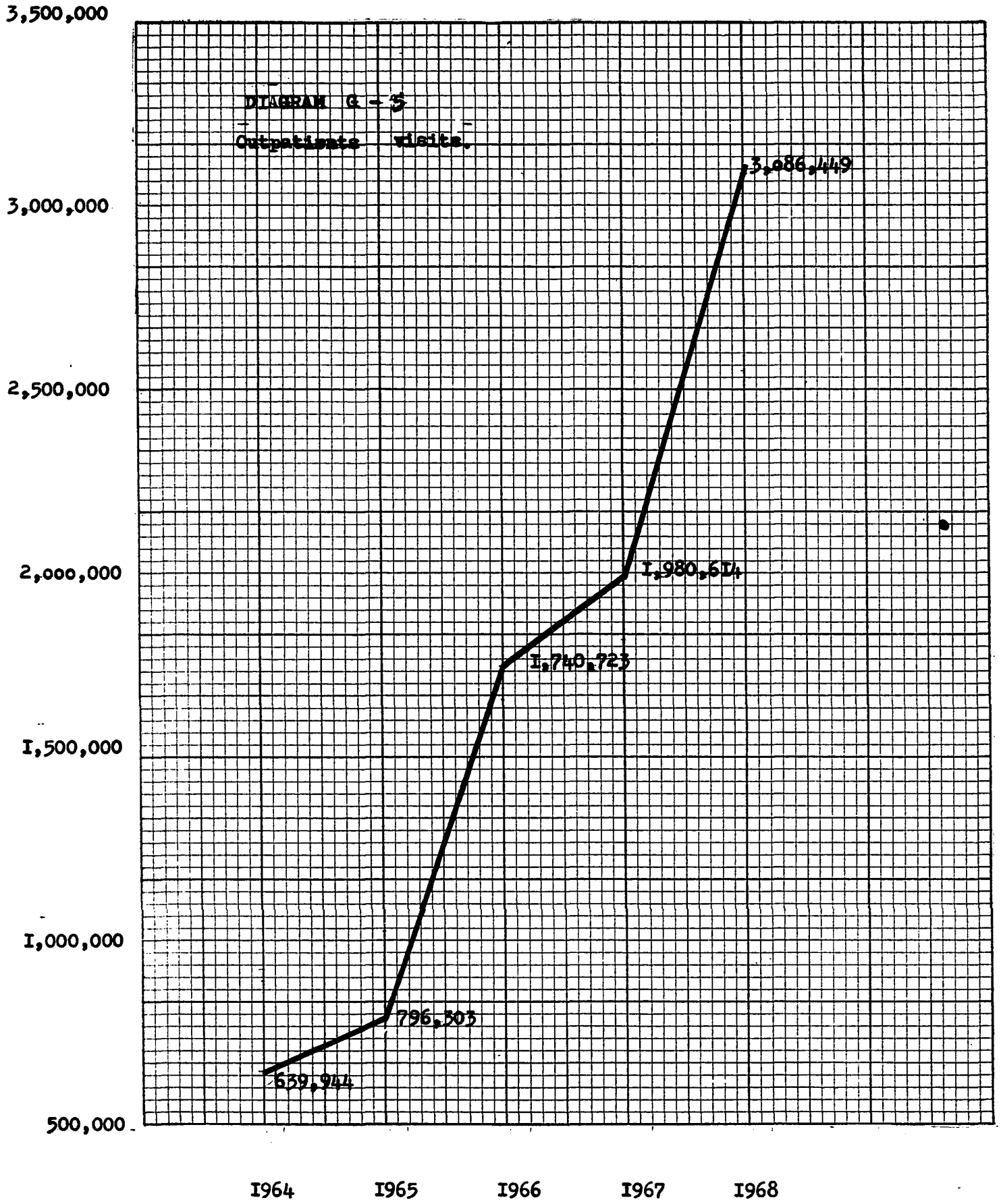


DIAGRAM G - 5
Outpatients visits.
3,500,000
3,000,000
2,500,000
2,000,000
I,500,000
I,000,000
500,000
639,944
796,303
I,740,723
I,980,6I4
3,086,449
I964
I965
I966
I967
I968

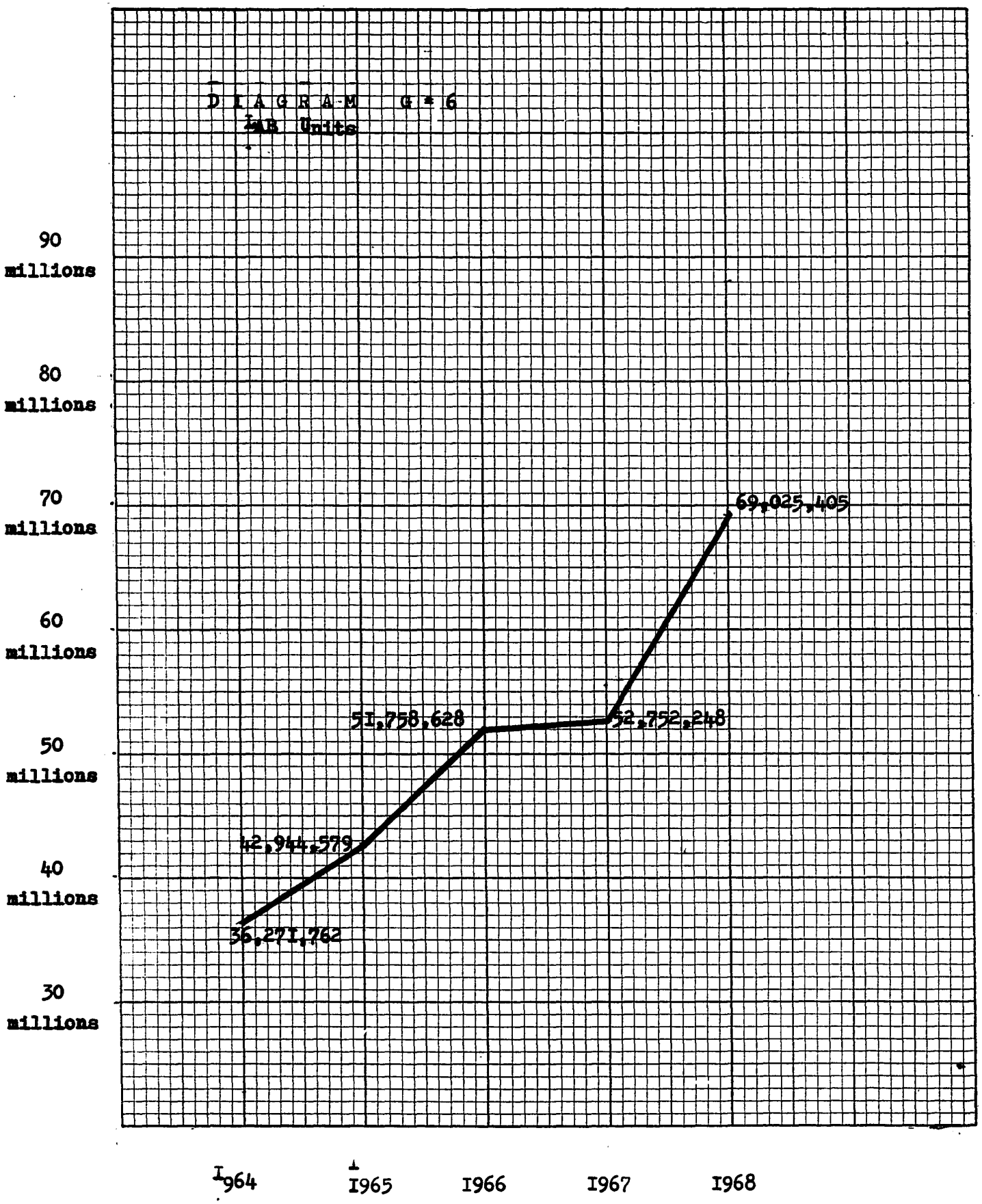


DIAGRAM G-6
IBR Units
90 millions
80 millions
70 millions
60 millions
50 millions
40 millions
30 millions
36,271,762
42,944,579
51,758,628
52,752,248
69,025,405
1964
1965
1966
1967
1968

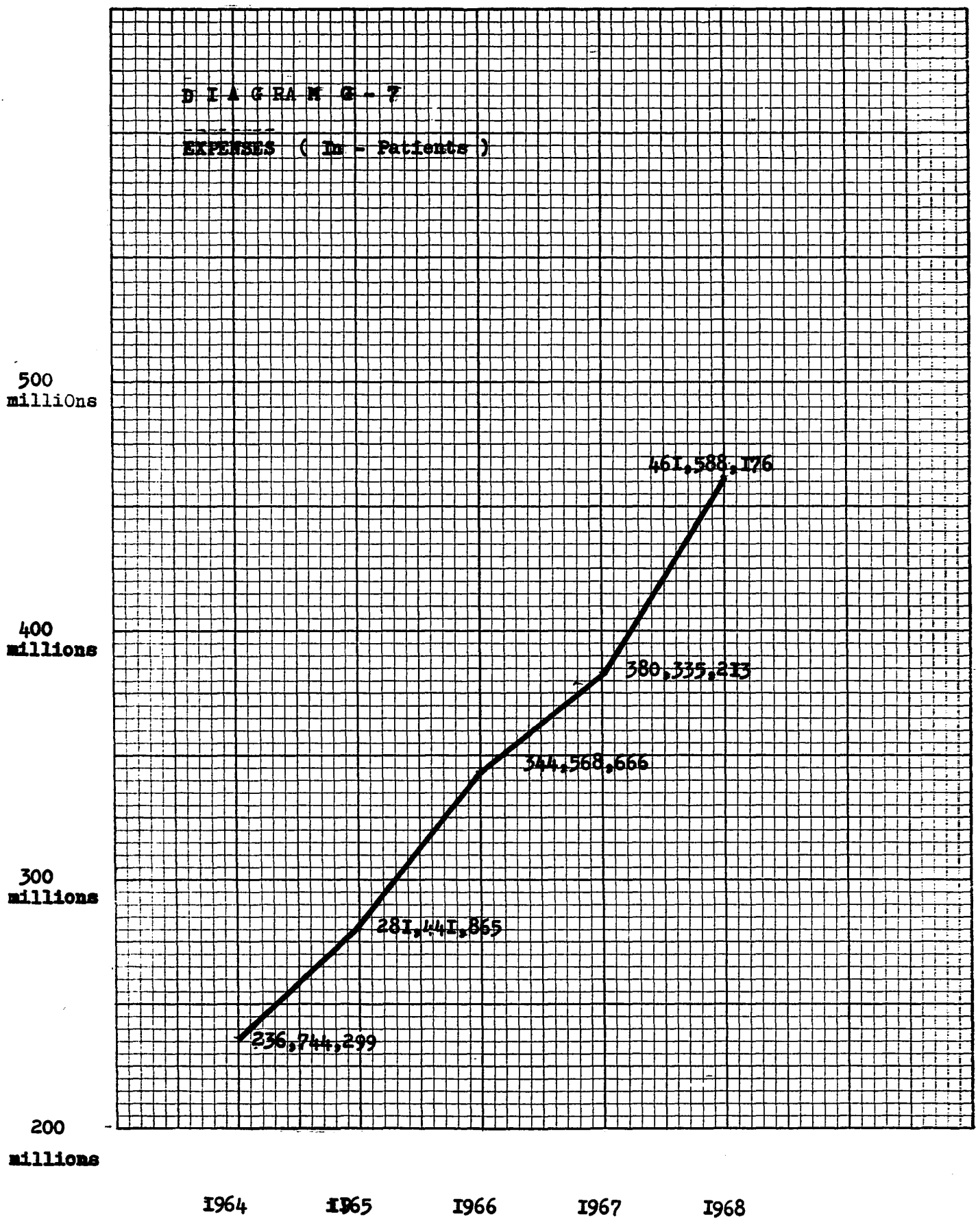


DIAGRAM G-7
EXPENSES (In - Patients)
500 millions
400 millions
300 millions
200 millions
461,588,176
380,335,213
344,568,666
281,441,865
236,744,299
1964
1965
1966
1967
1968

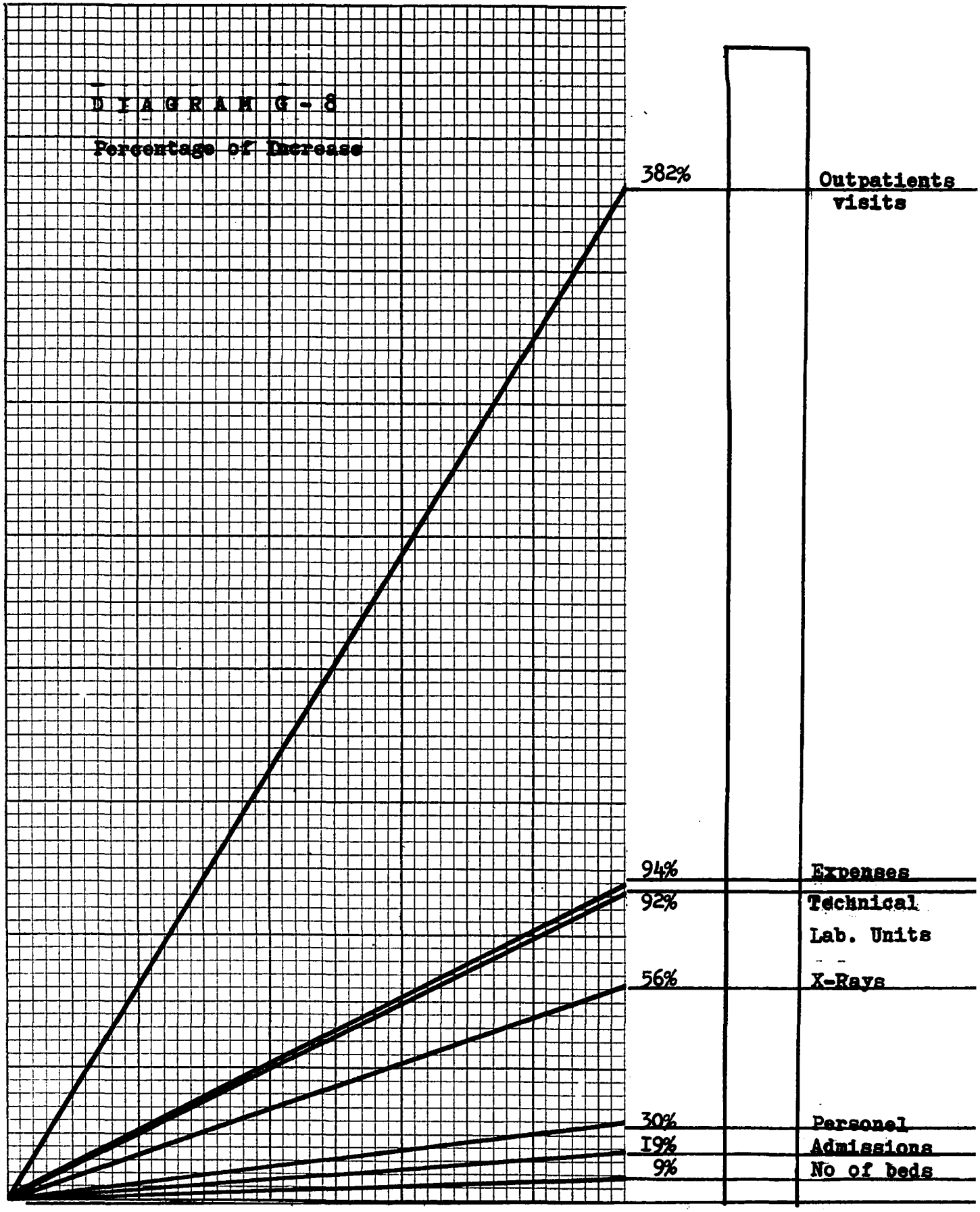


DIAGRAM G - 8
Percentage of Increase
382%
Outpatients visits
94%
Expenses
92%
Technical
Lab. Units
56%
X-Rays
30%
Personel
I9%
Admissions
9%
No of beds

Name of the Hospital: Queen Elizabeth
Address : 2100 Marlowe street Serial Number 0411
Montreal

Year	1966		1967		1968	
Total number of beds	296		296		296	
Total number of patient/days	79379		80291		81491	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	236	65291	236	66909	236	67119
Obstetric	47	9280	47	8795	47	9294
Paediatric	-	1213	-	-	-	-
Psychiatry	-	-	-	-	-	-
Tuberculosis	-	-	-	-	-	-
Isolation	4	1216	4	1218	4	1588
Intensive Care	9	2379	9	3369	9	3490
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	-	-	-	-	-
	7409		7383		7420	
Number of registered patients receiving service in hospital organized out-patient departm	20927		18914		24119	
Total number of out-patients attendances	37846		24948		36100	

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	86299		109822		156370	
Type of procedure:	in	refd	in	refd	in	refd
Haematology	17728	-	21719	-	32347	-
Biochemistry (urines)	5010	-	4897	-	7411	-
Biochemistry (blood & others	7192	-	19117	-	37491	941
Bacteriology	18719	-	19042	1140	30616	2104
Autopsy,surg,pathol,cystosco	3284	-	5935	-	7367	-
Blood bank	15907	-	16530	-	20215	-
B.M.R.	12	-	-	-	-	-
E.C.G.	2516	-	3372	-	2968	-
E.E.G.	-	-	420	-	1972	
Procurement & handling speci	14630	-	17650	-	12938	-
TOTALS	84998	-	108682	1140	153325	3045

X-RAYS			
Routine chest X-ray	824	640	637
Other radiographic exam.	11316	10656	12078
Fluoroscopic Examinations	973	1026	695
TOTALS			

Serial Number 0411

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	-	-	-
Emergency	3992	7199	3942
Total	3992	4199	3942

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY		21038		22792		24930
SOCIAL SERVICE						
PHYSICAL MEDICINE						
OCCUPATIONAL THERAPY						
PHYSIOTHERAPY		15158		2495		15915
SPEECH THERAPY		1353		2332		2412
ELECTROSHOCK THERAPY						
ELECTROCARDIOGRAPHY		629		224		742
ELECTROENCEPHALOGRAPHY				33		170

Name of the Hospital: Royal Victoria Hospital
Address : 687 Pine Avenue West Serial Number 0413

Year	1966		1967		1968	
Total number of beds	1014		1014		1014	
Total number of patient/days	315492		309060		319076	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	717	243292	717	240652	717	256771
Obstetric	109	27131	109	23974	109	23294
Paediatric	49	5155	49	4534	49	2211
Psychiatry	129	38360	129	38458	129	35096
Tuberculosis	-	-	-	-	-	-
Isolation	-	-	-	-	-	-
Intensive Care	10	1554	10	1442	10	1704
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	-	-	-	-	-
		25810		25092		25484

Number of registered patients receiving service in hospital organized out-patient departm			
Total number of out-patients attendances	151948	146845	152392

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	987551		1,452010			
Type of procedure:	in	refd	in	refd	in	refd
Haematology	275195	-	261496	-	317849	-
Biochemistry (urines)	-	-	-	-	-	-
Biochemistry (blood & others	201688	-	264418	-	291859	-
Bacteriology	-	90384	-	66127	-	104592
Autopsy,surg,pathol,cystosco	134348	320	534212	-	256039	-
Blood bank	718	-	29340	-	1068	-
B.M.R.	-	-	-	-	-	-
E.C.G.	14064	-	19492	-	23672	-
E.E.G.	2495	-	2400	-	8820	-
Procurement & handling speci	-	-	-	-	-	-
Others	286339	-	274525	-	362616	-
TOTALS	896847	90704	1385883	66127	1261923	104592

X-RAYS			
Routine chest X-ray	13624	14182	19456
Other radiographic exam.	31629	21273	29184
Fluoroscopic Examinations	5483	5061	6937
TOTALS			

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	145	1043	1208
Emergency	155	121	155
Total	300	1164	1363

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY	2283	23361	2973	27440	2597	27522
SOCIAL SERVICE	-	-	-	-	-	-
PHYSICAL MEDICINE	-	-	-	-	-	-
OCCUPATIONAL THERAPY	3334	-	3667	371	296	9991
PHYSIOTHERAPY	22462	49344	20048	50358	22198	53870
SPEECH THERAPY	2813	-	3155	-	2407	-
ELECTROSHOCK THERAPY	-	2592	-	2274	-	930
ELECTROCARDIOGRAPHY	1439	2879	1520	3080	1411	5580
ELECTROENCEPHALOGRAPHY	-	208	200	-	-	735

Name of the Hospital: Hôpital Maisonneuve
Address : 5415 boul. de l'Assomption Serial Number 0372

Year	1966		1967		1968	
Total number of beds	538		538		538	
Total number of patient/days	175418		169000		178796	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	372	125049	372	119398	-	137243
Obstetric	48	12422	48	12994	-	12720
Paediatric	75	22549	75	21280	-	13504
Psychiatry	43	15398	43	15328	-	15329
Tuberculosis	-	-	-	-	-	-
Isolation	-	-	-	-	-	-
Intensive Care	-	-	-	-	-	-
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	-	-	-	-	-
	19380		19640		18952	

Number of registered patients receiving service in hospital organized out-patient departm			
Total number of out-patients attendances	168251	179938	197904

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	345860		388268		528471	
Type of procedure:	in	refd	in	refd	in	refd
Haematology	100093	-	128387	-	178633	-
Biochemistry (urines)	7560	-	11078	-	18198	-
Biochemistry (blood & others	27932	-	31733	-	138821	-
Bacteriology	46131	-	55082	1430	110613	3460
Autopsy,surg,pathol,cystosco	29535	1131	35831	-	12067	-
Blood bank	32593	-	32802	-	41191	-
B.M.R.	132	-	151	-	176	-
E.C.G.	4684	-	6812	-	16924	-
E.E.G.	6984	-	7080	-	8388	-
Procurement & handling speci	89085	-	91074	-	-	-
TOTALS	344729	1131	400731	1430	525011	3460

X-RAYS			
Routine chest X-ray	6200	5325	9399
Other radiographic exam.	34738	31166	47690
Fluoroscopic Examinations	1450	1257	2045
TOTALS			

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	1744	931	1053
Emergency	8156	8559	7081
Total	9900	9490	8134

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY	-	45083	-	49557	-	56530
SOCIAL SERVICE						
PHYSICAL MEDICINE	-	11210	-	14409	-	18925
OCCUPATIONAL THERAPY	-	4553	-	7500	-	-
PHYSIOTHERAPY	-	29146	-	29140	-	34580
SPEECH THERAPY	-	2837	-	2705	-	-
ELECTROSHOCK THERAPY	-	966	-	970	-	694
ELECTROCARDIOGRAPHY	-	1171	-	1703	-	4231
ELECTROENCEPHALOGRAPHY	-	582	-	590	-	699

Name of the Hospital: Montreal General Hospital
Address : 1650 Cedar Avenue Serial Number 0406

Year	1966		1967		1968	
Total number of beds	851		851		910	
Total number of patient/days	258225		271356		278769	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	757	236303	757	247005	760	245177
Obstetric	41	10927	41	11643	59	11203
Paediatric	-	-	-	-	-	-
Psychiatry	53	10995	53	12708	52	12382
Tuberculosis	-	-	-	-	-	-
Isolation	-	-	-	-	23	7975
Intensive Care	-	-	-	-	16	2032
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	-	-	-	-	-
	19343		20194		20427	
Number of registered patients receiving service in hospital organized out-patient departm	25170		24722		24406	
Total number of out-patients attendances	179163		177001		184630	

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	230155		289510		408345	
Type of procedure:	in	refd	in	refd	in	refd
Haematology	73655	-	44157	-	78658	-
Biochemistry (urines)	5178	-	10612	-	13049	-
Biochemistry (blood & others	72623	-	88150	-	189371	-
Bacteriology	57883	-	69015	-	83752	-
Autopsy,surg,pathol,cystosco	18480	-	38916	-	71727	-
Blood bank	3275	-	4466	-	7329	-
B.M.R.	7	-	-	-	-	-
E.C.G.	14556	-	17640	-	13364	-
E.E.G.	6756	-	7824	-	4524	-
Procurement & handling speci	7742	-	8730	-	9571	-
TOTALS	230155	-	289510	-	408345	-

X-RAYS			
Routine chest X-ray	2403	2479	2716
Other radiographic exam.	43864	33449	38760
Fluoroscopic Examinations	3331	2165	2421
TOTALS			

Serial Number 0406

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	2403	2758	2345
Emergency	4832	7624	-
Total	7235	7382	2345

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY	25440	-	27399	-	27220	-
SOCIAL SERVICE						
PHYSICAL MEDICINE	1426	782	1315	702	1634	694
OCCUPATIONAL THERAPY	1835	229	4869	92	4986	114
PHYSIOTHERAPY	15751	9043	12956	8053	29054	2193
SPEECH THERAPY	621	20	746	93	630	71
ELECTROSHOCK THERAPY	680	-	574	-	426	-
ELECTROCARDIOGRAPHY	2249	1390	2624	1786	3341	1559
ELECTROENCEPHALOGRAPHY	282	281	342	310	377	310

Name of the Hospital: Jewish General Hospital
Address : 3755 Cote Ste Catherine Serial Number 0396
Montreal

Year	1966		1967		1968	
Total number of beds	397		407		613	
Total number of patient/days	125912		121178		133144	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	264	98192	264	93010	475	102429
Obstetric	60	13326	60	13667	48	13629
Paediatric	38	3774	38	3586	53	3916
Psychiatry	35	10620	45	11015	51	13160
Tuberculosis	-	-	-	-	-	-
Isolation	-	-	-	-	-	-
Intensive Care	-	-	-	-	26	-
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	-	-	-	-	-
	10731		10206		11345	
Number of registered patients receiving service in hospital organized out-patient departm	10820		10161		11054	
Total number of out-patients attendances	70527		67460		76469	

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	459517		380979		518447	
Type of procedure:	in	refd	in	refd	in	refd
Haematology	80965	-	60145	-	50666	-
Biochemistry (urines)	18655	5274	22415	4879	30451	4510
Biochemistry (blood & others	56609	16804	95079	22092	154319	39092
Bacteriology	26881	-	60535	-	96796	1495
Autopsy,surg,pathol,cystosco	216760	-	56275	-	65908	-
Blood bank	12515	690	18081	-	16684	-
B.M.R.	14	-	-	-	-	-
E.C.G.	10200	-	11280	-	16156	-
E.E.G.	8280	-	9456	-	7869	-
Procurement & handling speci	6070	-	20741	-	39501	-
TOTALS	436749	22768	354007	26972	478350	40097

X-RAYS			
Routine chest X-ray	-	-	-
Other radiographic exam..	22752	22152	21873
Fluoroscopic Examinations	1428	982	2365
TOTALS			

Serial Number 0296

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	2029	1691	897
Emergency	5011	3773	4686
Total	7040	5464	5583

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY	-	23742	-	26716	-	34541
SOCIAL SERVICE						
PHYSICAL MEDICINE						
OCCUPATIONAL THERAPY	-	-	39	-	-	14694
PHYSIOTHERAPY	6494	11327	7079	12950	-	1980
SPEECH THERAPY	475	576	294	1161	-	-
ELECTROSHOCK THERAPY	-	279	396	-	-	1489
ELECTROCARDIOGRAPHY	2550	67	1443	1374	-	643
ELECTROENCEPHALOGRAPHY	107	690	135	653	-	-

Name of the Hospital: Hôpital St-Luc
Address : 1058 St-Denis Serial Number 0392

Year	1966		1967		1968	
Total number of beds	500		605		607	
Total number of patient/days	118712		144351		171926	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	456	112622	561	137052	563	162673
Obstetric	34	4262	34	5127	34	6804
Paediatric	-	-	-	-	-	-
Psychiatry	-	-	-	-	-	-
Tuberculosis	-	-	-	-	-	-
Isolation	-	-	-	-	-	-
Intensive Care	10	1828	10	2172	10	2449
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	-	-	-	-	-
		7702		9314		11038
Number of registered patients receiving service in hospital organized out-patient departm	12558		33285		17717	
Total number of out-patients attendances	40237		62451		55381	

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	151432		186593		268286	
Type of procedure:	in	refd	in	refd	in	refd
Haematology	28967	-	47305	-	63944	-
Biochemistry (urines)	9791	-	12869	46	13903	595
Biochemistry (blood & others	25795	-	38168	-	55051	-
Bacteriology	46795	-	48429	-	76294	-
Autopsy,surg,pathol,cystosco	4657	-	2634	-	16906	-
Blood bank	21418	-	18177	-	19385	-
B.M.R.	-	-	-	-	-	-
E.C.G.	3824	-	5808	-	7492	-
E.E.G.	-	-	1020	-	876	-
Procurement & handling speci	10185	-	12137	-	13390	-
TOTALS	151432	-	186547	46	267691	595

X-RAYS			
Routine chest X-ray	-	494	1129
Other radiographic exam.	15389	12199	15400
Fluoroscopic Examinations	405	467	3268
TOTALS			

Serial Number 0392

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	6	9	2
Emergency	2332	2577	1378
Total	2338	2586	1380

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY	19461	-	19911	-	24778	-
SOCIAL SERVICE						
PHYSICAL MEDICINE	-	-	-	-	15587	-
OCCUPATIONAL THERAPY						
PHYSIOTHERAPY	12371	4336	19851	7173	25706	10611
SPEECH THERAPY	-	-	221	102	27	2
ELECTROSHOCK THERAPY						
ELECTROCARDIOGRAPHY	833	123	1393	59	1873	202
ELECTROENCEPHALOGRAPHY	-	-	85	-	73	39

Name of the Hospital: Ste Jeanne d'Arc
Address : 3570 St. Urbain Serial Number 0387

Year	1966		1967		1968	
Total number of beds	388		388		388	
Total number of patient/days	114896		113972		123776	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	285	88611	285	86618	285	96559
Obstetric	49	11184	49	11512	49	11228
Paediatric	43	11441	43	12309	43	12430
Psychiatry	11	3660	11	3533	11	3559
Tuberculosis	-	-	-	-	-	-
Isolation	-	-	-	-	-	-
Intensive Care	-	-	-	-	-	-
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	-	-	-	-	-
	10175		10039		10568	
Number of registered patients receiving service in hospital organized out-patient departm	11776		12178		13870	
Total number of out-patients attendances	24440		25053		31245	

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	116181		158256		255473	
Type of procedure:	in	refd	in	refd	in	refd
Haematology	24724	-	30846	-	57651	-
Biochemistry (urines)	5509	305	6998	165	14106	361
Biochemistry (blood & others	11472	385	18311	525	37072	1457
Bacteriology	30669	744	42095	522	86585	424
Autopsy,surg,pathol,cystosco	14994	-	15090	-	7770	9093
Blood bank	659	-	799	-	720	20
B.M.R.	120	-	184	-	200	-
E.C.G.	2180	-	3888	-	10068	-
E.E.G.	-	-	-	-	-	-
Procurement & handling speci	24420	-	38837	-	29946	-
TOTALS	114747	1434	157044	1212	244118	11355

X-RAYS			
Routine chest X-ray	2300	1910	3411
Other radiographic exam.	7359	5204	11462
Fluoroscopic Examinations	538	375	1396
TOTALS			

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	595	3016	3147
Emergency	-	3225	1959
Total	595	6241	5106

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY	9596	-	10222	-	11812	-
SOCIAL SERVICE						
PHYSICAL MEDICINE						
OCCUPATIONAL THERAPY						
PHYSIOTHERAPY	2614	-	8815	-	10411	-
SPEECH THERAPY						
ELECTROSHOCK THERAPY						
ELECTROCARDIOGRAPHY	545	-	972	-	2517	-
ELECTROENCEPHALOGRAPHY					193	

Name of the Hospital: Hôpital Notre-Dame
Address : 1560 est rue Sherbrooke Serial Number 0374
Montréal.

Year	1966		1967		1968	
Total number of beds	1038		1038		1038	
Total number of patient/days	331007		326355		337123	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	850	231178	-	276002	-	289578
Obstetric	49	13411	-	13362	-	13113
Paediatric	86	17918	-	17522	-	16303
Psychiatry	53	18500	-	19469	-	18129
Tuberculosis	-	-	-	-	-	-
Isolation	-	-	-	- -	-	-
Intensive Care	-	-	-	-	-	-
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	--	-	-	-	-
		26258		25423		28641
Number of registered patients receiving service in hospital organized out-patient departm.	4267		4289		4004	
Total number of out-patients attendances	29868		30028		28030	

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	498359		768783		1,144,520	
Type of procedure:	in	refd	in	refd	in	refd
Haematology	77523	-	101039	-	171471	-
Biochemistry (urines)	61501	-	68972	-	134589	-
Biochemistry (blood & others	180534	-	353712	-	428679	-
Bacteriology	115923	902	119902	1100	154392	2200
Autopsy,surg,pathol,cystosco	11951	-	64042	-	171863	-
Blood bank	12348	-	13104	-	14490	-
B.M.R.	1172	-	676	-	900	-
E.C.G.	16984	-	22736	-	28344	-
E.E.G.	15776	-	16932	-	23388	-
Procurement & handling speci	-	-	-	-	-	-
Physiologie respiratoire	3721	24	6568	-	14213	-
TOTALS	497433	926	767683	1100	1142320	2200

X-RAYS			
Routine chest X-ray	2555	2425	3805
Other radiographic exam.	40217	38877	56521
Fluoroscopic Examinations	2751	2681	4632
TOTALS			

Serial Number 0374

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	3220	3262	5232
Emergency	15898	16434	16859
Total	19118	19696	22091

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY	9216	44325	11263	46408	13176	47424
SOCIAL SERVICE						
PHYSICAL MEDICINE	2012	14618	3879	31365	5620	33796
OCCUPATIONAL THERAPY	60	706	296	2646	547	2707
PHYSIOTHERAPY	2865	20060	5630	43965	8102	49464
SPEECH THERAPY	2017	36	2390	15	2781	-
ELECTROSHOCK THERAPY	-	-	-	-	33	3
ELECTROCARDIOGRAPHY	3605	644	4260	1424	5375	1711
ELECTROENCEPHALOGRAPHY	525	800	530	881	814	1164

Serial Number 0332

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	454	409	390
Emergency	1699		
Total	2153	409	390

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY		18252		18480		18492
SOCIAL SERVICE						
PHYSICAL MEDICINE						
OCCUPATIONAL THERAPY						
PHYSIOTHERAPY						
SPEECH THERAPY						
ELECTROSHOCK THERAPY						
ELECTROCARDIOGRAPHY		140			290	
ELECTROENCEPHALOGRAPHY						

Name of the Hospital: Corporation de l'Hôpital Bellechasse
Address : 3950 rue Bellechasse Serial Number 0332

Year	1966		1967		1968	
Total number of beds	176		176		176	
Total number of patient/days	61777		63921		64843	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	144	49400	144	51503	144	54433
Obstetric	32	12377	32	12418	32	10410
Paediatric	-	-	-	-	-	-
Psychiatry	-	-	-	-	-	-
Tuberculosis	-	-	-	-	-	-
Isolation	-	-	-	-	-	-
Intensive Care	-	-	-	-	-	-
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	-	-	-	-	-
	6065		6351		6813	
Number of ~~registered~~ patients receiving service in hospital organized out-patient departm	6950		7035		7840	
Total number of out-patients attendances	18252		18480		18492	

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	54937		72332		107235	
Type of procedure:	in	refd	in	refd	in	refd
Haematology	6606	-	15669	-	22883	-
Biochemistry (urines)	3349	-	3454	-	12150	-
Biochemistry (blood & others	2189	-	9241	-	17035	-
Bacteriology	8358	-	11119	-	17907	-
Autopsy,surg,pathol,cystosco	25840	-	23440	-	24940	-
Blood bank	7523	-	8325	-	10604	-
B.M.R.	-	-	-	-	-	-
E.C.G.	1072	-	1084	-	1290	-
E.E.G.	-	-	-	-	-	-
Procurement & handling speci	-	-	-	-	-	-
TOTALS	54937	-	72332	-	106809	

X-RAYS			
Routine chest X-ray	811	843	990
Other radiographic exam.	4671	5211	4980
Fluoroscopic Examinations	648	1009	3200
TOTALS			

Name of the Hospital: Reddy Memorial Hospital
Address : 4039 Tupper Street Serial Number 0572

Year	1966		1967		1968	
Total number of beds	734		134		212	
Total number of patient/days	33913		38822		50502	
Distribution	Type	P/days	Type	P/days	Type	P/days
Medical & Surgery	105	28113	105	33864	146	43390
Obstetric	21	5800	21	4958	36	5422
Paediatric	2	-	2	-	2	-
Psychiatry	-	-	-	-	15	2690
Tuberculosis	-	-	-	-	-	-
Isolation	6	-	6	-	8	-
Intensive Care	-	-	-	-	5	-
Chronic, Conv, Geriatry	-	-	-	-	-	-
Rehabilitation	-	-	-	-	-	-

Number of registered patients receiving service in hospital organized out-patient departm	5038	5448	6561
Total number of out-patients attendances	18188	18764	18730

PATIENT SERVICE DEPARTMENTS

LABORATORIES

Total work for out-patients of the hospital.	31456		30959		29200	
Type of procedure:	in	refd	in	refd	in	refd
Haematology	7843	-	7304	-	7165	-
Biochemistry (urines)	5806	-	4271	-	3353	-
Biochemistry (blood & others	4778	-	6425	-	7764	-
Bacteriology	3358	-	3952	-	2858	-
Autopsy,surg,pathol,cystosco	7859	-	6299	-	7395	-
Blood bank	-	-	-	-	-	-
B.M.R.	-	-	-	-	-	-
E.C.G.	1812	-	2708	-	2660	-
E.E.G.	-	-	-	-	-	-
Procurement & handling speci	-	-	-	-	-	-
TOTALS	31456	-	30959	-	31195	-

X-RAYS			
Routine chest X-ray	88	79	1101
Other radiographic exam.	6773	6498	12432
Fluoroscopic Examinations	1089	1163	2167
TOTALS			

Serial Number 0172

Surgical Services Operations performed in the	1966	1967	1968
Operating rooms	-	-	-
Emergency	1252	1408	1372
Total	1252	4108	1372

Other Services or treatments	Reg'd outpt	Others	Reg'd outpt	Others	Reg'd outpt	Others
EMERGENCY	2639	2772	3047	3256	4098	2911
SOCIAL SERVICE	-	-	-	-	-	-
PHYSICAL MEDICINE	-	-	-	-	-	-
OCCUPATIONAL THERAPY	-	-	-	-	2961	-
PHYSIOTHERAPY	2033	871	-	-	2430	5097
SPEECH THERAPY	-	-	-	-	-	-
ELECTROSHOCK THERAPY	-	-	-	-	-	-
ELECTROCARDIOGRAPHY	453	-	457	220	665	622
ELECTROENCEPHALOGRAPHY	-	-	-	-	-	-

QUESTIONNAIRE

sent to fifteen nations

A - D I R E C T M E T H O D S

A (i) MEDICAL FIELD

A (i) 1 (a) What is the actual and future role of the general practitioners ?

A (i) 1 (b) What is the relation between the general practitioner and the hospital ?

A (i) 2 (a) Do hospitals participate to medical care provided outside their premises ? If yes, in what respect ?

A (i) 2 (b) What are the different financial programs applied to hospitals' specialists and others for consultation to non hospitalized patients ?

A (i) 3 (a) Are Outpatient departments existing in all the hospitals, most of them or some of them (including psychiatric hospitals) ?

A (i) 3 (b) Day centres in: all the hospitals, most of them or some of them, category of care given:

i) mental illness;

ii) geriatry

iii) other categories (rehabilitation, etc.) ?

A (i) 3 (c) Is your system including specialized hotels or institutions for instance for tuberculosis treatment, diabetes, mental illness ?

A (i) 3 (d) Is the intensity of care provided in these institutions the same for acute and non acute cases (radiotherapy, etc.) ?

A (ii) NURSING AND SOCIAL HOME CARE

A (ii) 1 Do you have an organized system for:

a) nursing care

b) social care

Are these two types of care provided by the hospital and/or other public or private institutions ?

A (iii) EQUIPMENT

A (iii) 1 Do you have an organized system to provide medical and nursing necessary equipment for home care patients to avoid their hospitalization ?

A (iii) 2 If yes, what is this system (hospital, public or private organization) ?

A (iv) PREMISES

A (iv) 1 Do you have special premises for special categories of patients (paralyzed, handicapped, etc.)? If yes, what is the organization ?

A (iv) 2 Do you have special premises specially equipped for diagnosis and/or treatment to avoid hospitalization? (Health centers, special clinics,etc.)

A (v) ASSISTANCE GIVEN BY HOSPITALS TO GENERAL PRACTITIONERS

A (v) 1 Do you have an organized system to provide a general practitioner with the following:

a) laboratory tests (pathology, haematology, bacteriology and biochemistry) ?

b) radiology tests ?

c) physical treatments (physiotherapy, radiotherapy) ?

A (v) 2 If yes, what is the range of this system ?

B - I N D I R E C T M E T H O D S

More efficient utilization of hospital beds

B 1 Have you done any survey on the number and percentage of hospitalized patients whose hospitalization could have been avoided ?

B 2 Have you done any survey on the percentage of acute or chronic patients for example on a length of stay basis, percentage for all ages with respect to population or other criteria ?

B 3 What is the method you apply in the rotation of patients in the various hospitals beds (for example on the number of patients treated in a bed for one year) ?

a) a general survey ?

b) a survey for specialities or particular groups ?

C - SPECIFIC CONSIDERATIONS CONCERNING SOME CATEGORIES

C (i) MATERNITY

C (i) 1 What is the policy concerning pregnancies and home deliveries ?

C (i) 2 What is the average stay in the hospital after delivery ?

C (i) 3 Can you specify a real average for the length of stay ?

C (i) 4 Have other factors influenced length of stays like for instance the painless delivery ?

C (ii) CHILDREN

C (ii) 1 Do you have a policy encouraging or restricting children hospitalization ?

C (ii) 2 Do you encourage the mother and child admission ?

C (iii) CHRONIC DISEASES (GERIATRY)

Do you have any organized programs for geriatric care, or younger chronic care or are these patients taken care of in the general hospital ?

C (iv) MENTAL ILLNESS

C (iv) 1 What is your general policy concerning mental illness ?

C (iv) 2 Do you think that the future tendancy is for a short treatment period keeping the patient in the collectivity ?

D - C O S T O F C A R E

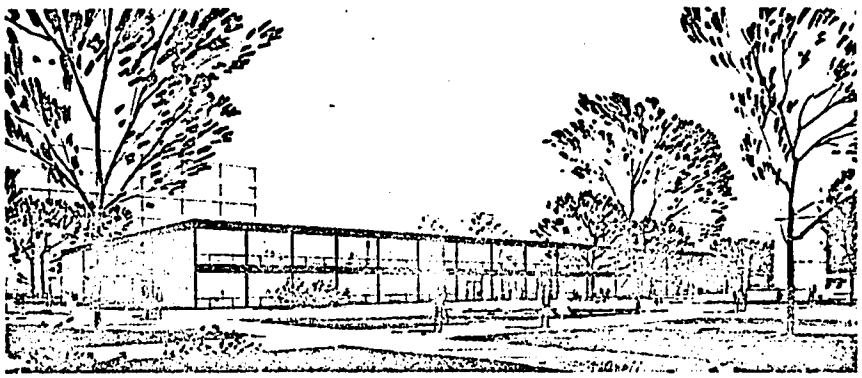
D 1 Taking into consideration the real difficulties, have you any available studies concerning comparative costs between hospital and domiciliary treatment?

D 2 Is the non admission of patients to hospitals due to financial considerations ?

D 3 Has the financial policy any repercussions on hospital or domiciliary treatment ?

BUILDING CONSTRUCTION

A late Mies: prototype for extended care facility



One of the last projects completed by Mies van der Rohe before his death in August of this year has been unveiled. It is a unique architectural solution to the problems of rising hospital costs—an extended care facility for post acute patients who do not need the more expensive care facilities of general hospitals.

The prototype model designed by The Office of Mies van der Rohe for American Health Facilities, Inc., a subsidiary of American Hospital Supply Corp., was introduced by Dirk Lohan, partner of the firm and grandson of the late architect.

Lohan noted that the design philosophy of the firm was that "science and technology are the driving forces of today" and that all projects are approached "rationally rather than emotionally." The building, said Lohan, is highly flexible, with a modular design making it adaptable to any size structure needed by a hospital.

The prototype, the only hospital design of the architectural firm, reflects the belief that an extended care facility should encourage as many of its patients as possible to look after themselves, and actively participate in therapeutic and rehabilitational activities. Thus, all lounges, day rooms and nursing cores are placed between two tiers of patient rooms so that any patient may observe and in turn become a part of daily activities.

Lohan noted that the building is strictly governed by structural logic, and this fact is expressed in its architecture. The longitudinal elevations of the structure benefit from the strong sense of rhythm which emanates from expressing each patient's room as a unit. Each 14-ft wide typical unit, in turn, reflects the openness which chacterizes the spaces within. Proportion of window walls have been carefully studied to create relaxed feeling of the whole.

Extruded aluminum with a dark color finish and bronze-tinted glass will form an excellent exterior wall, and such an enclosure is suggested in the prototype unit. The inherent advantage of a skeleton structure, however, would make adoption of other exterior materials such as steel, brick, concrete and stone equally practicable.

Framing system consists of 10-in. thick concrete flat slab with drop panels and flat beams at two interior rows of columns, cast monolithically with columns for roof, second floor, and portion of first floor above basement, and 5-in. slab on compacted soil and granular fill. This system requires only the simplest formwork, resulting in clean, unbroken undersurfaces which contribute to reduced depth of duct spaces. It is anticipated that this system could be readily constructed in any region of the country without complications of material or skilled labor now available.

HOSPITAL FORUM

Extended Care Subsidiary Formed

American Hospital Supply Corporation has announced formation of a subsidiary to arrange financing, construction and the furnishing of extended care facilities for general hospitals.

Chairman Foster G. McGaw and President Harry K. DeWitt said comprehensive "turn-key" services will be available from American Health Facilities, Inc. (AHF) immediately. They announced that James S. Kennedy (whose experience with the corporation includes the vice presidency of the hospital supply division) has been elected president of the new subsidiary. AHF's architectural and design staff will be augmented by a council of consultants in health care, planning and construction, including:

Ray E. Brown, executive vice president, Affiliated Hospitals Center, Boston; Boone Powell, executive director, Baylor University Medical Center, Dallas; Clarence E. Wonnacott, executive director, Latter-day Saints Hospital, Salt Lake City; Wood & Tower, Princeton, N.J., planning and cost control; and The Office of Mies van der Rohe, Chicago, architects.

WALL STREET JOURNAL

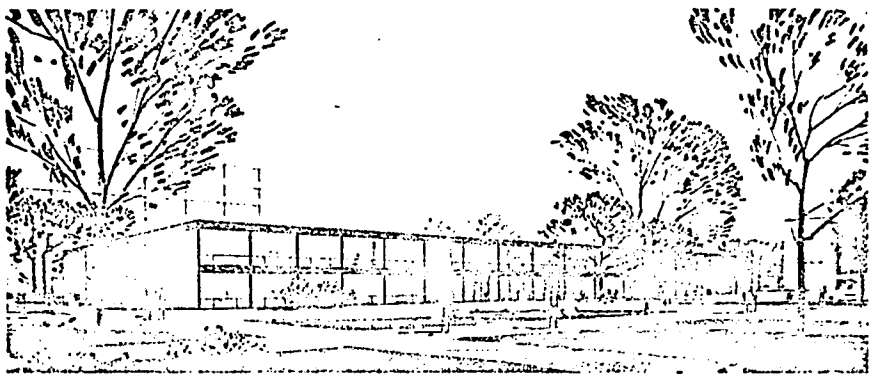
American Hospital Supply Forms Service Subsidiary

EVANSTON, Ill. — American Hospital Supply Corp. said it formed a subsidiary that will finance, construct and furnish extended-care facilities for general hospitals.

Services of the unit, American Health Facilities Inc., will be augmented by a council of consultants in health care, planning and construction. Members are Ray E. Brown, executive vice president of Affiliated Hospitals Center, Boston; Boone Powell, executive director of Baylor University Medical Center, Dallas; and Clarence E. Wonnacott, executive director of Latter Day Saints Hospitals, Salt Lake City.

American Hospital said it will coordinate and supervise all details from feasibility studies, through planning and construction to interior design, thus saving time and expense for hospitals, as well as providing them with the experience of the council of consultants. American won't own or operate any of the extended-care units, a spokesman said.

A late Mies: prototype for extended care facility



One of the last projects completed by Mies van der Rohe before his death in August of this year has been unveiled. It is a unique architectural solution to the problems of rising hospital costs—an extended care facility for post acute patients who do not need the more expensive care facilities of general hospitals.

The prototype model designed by The Office of Mies van der Rohe for American Health Facilities, Inc., a subsidiary of American Hospital Supply Corp., was introduced by Dirk Lohan, partner of the firm and grandson of the late architect.

Lohan noted that the design philosophy of the firm was that "science and technology are the driving forces of today" and that all projects are approached "rationally rather than emotionally." The building, said Lohan, is highly flexible, with a modular design making it adaptable to any size structure needed by a hospital.

The prototype, the only hospital design of the architectural firm, reflects the belief that an extended care facility should encourage as many of its patients as possible to look after themselves, and actively participate in therapeutic and rehabilitational activities. Thus, all lounges, day rooms and nursing cores are placed between two tiers of patient rooms so that any patient may observe and in turn become a part of daily activities.

Lohan noted that the building is strictly governed by structural logic, and this fact is expressed in its architecture. The longitudinal elevations of the structure benefit from the strong sense of rhythm which emanates from expressing each patient's room as a unit. Each 14-ft wide typical unit, in turn, reflects the openness which chacterizes the spaces within. Proportion of window walls have been carefully studied to create relaxed feeling of the whole.

Extruded aluminum with a dark color finish and bronze-tinted glass will form an excellent exterior wall, and such an enclosure is suggested in the prototype unit. The inherent advantage of a skeleton structure, however, would make adoption of other exterior materials such as steel, brick, concrete and stone equally practicable.

Framing system consists of 10-in. thick concrete flat slab with drop panels and flat beams at two interior rows of columns, cast monolithically with columns for roof, second floor, and portion of first floor above basement, and 5-in. slab on compacted soil and granular fill. This system requires only the simplest formwork, resulting in clean, unbroken undersurfaces which contribute to reduced depth of duct spaces. It is anticipated that this system could be readily constructed in any region of the country without complications of material or skilled labor now available.

Extended Care Subsidiary Formed

American Hospital Supply Corporation has announced formation of a subsidiary to arrange financing, construction and the furnishing of extended care facilities for general hospitals.

Chairman Foster G. McGaw and President Harry K. DeWitt said comprehensive "turn-key" services will be available from American Health Facilities, Inc. (AHF) immediately. They announced that James S. Kennedy (whose experience with the corporation includes the vice presidency of the hospital supply division) has been elected president of the new subsidiary. AHF's architectural and design staff will be augmented by a council of consultants in health care, planning and construction, including:

Ray E. Brown, executive vice president, Affiliated Hospitals Center, Boston; Boone Powell, executive director, Baylor University Medical Center, Dallas; Clarence E. Wonnacott, executive director, Latter-day Saints Hospital, Salt Lake City; Wood & Tower, Princeton, N.J., planning and cost control; and The Office of Mies van der Rohe, Chicago, architects.

WALL STREET JOURNAL

American Hospital Supply Forms Service Subsidiary

EVANSTON, Ill. — American Hospital Supply Corp. said it formed a subsidiary that will finance, construct and furnish extended-care facilities for general hospitals.

Services of the unit, American Health Facilities Inc., will be augmented by a council of consultants in health care, planning and construction. Members are Ray E. Brown, executive vice president of Affiliated Hospitals Center, Boston; Boone Powell, executive director of Baylor University Medical Center, Dallas; and Clarence E. Wonnacott, executive director of Latter Day Saints Hospitals, Salt Lake City.

American Hospital said it will coordinate and supervise all details from feasibility studies, through planning and construction to interior design, thus saving time and expense for hospitals, as well as providing them with the experience of the council of consultants. American won't own or operate any of the extended-care units, a spokesman said.