

REPORT

on the

SURVEY OF HOSPITALS IN NOVA SCOTIA

under the

FEDERAL HEALTH SURVEY GRANT

1949

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Halifax, N. S.  
September, 1950


Hon. Harold Connolly,  
Minister of Public Health,  
Halifax, Nova Scotia.

Dear Sir:

In have the honor to present a report on the Survey of Hospitals in Nova Scotia. This report covers a part of the survey of health and hospital facilities, which was authorized under the Federal Health Survey Grant.

In presenting this report I wish to acknowledge my indebtedness to the members of the Advisory and Central Committees on the Health Survey and to the various sub-committees. Their assistance and advice have been most valuable. In addition, I wish to express special thanks to Mr. John H. Quigley and Mr. Horace Colford, who assisted in the collection of hospital statistics; to Miss Elizabeth Doull and Mr. E. D. Chisholm, who tabulated and analyzed the data; and to Mrs. Mildred Bridgeford, whose help in preparing the final report was invaluable. It is also a pleasure to express my sincere thanks to Dr. P. S. Campbell, the Deputy Minister of Health and to Dr. J. S. Robertson, the Assistant Deputy Minister, for their assistance in providing access to data and records and for other manifestations of full co-operation in this survey.

Yours respectfully,

  
C. B. Stewart, M.D., M.P.H.  
Director of Health Survey

CBS:MB

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SURVEY OF HOSPITALS IN NOVA SCOTIA

1. PREFACE

This report was prepared by the Survey Director and staff, and reviewed in detail by the Subcommittee of the Maritime Hospital Association, the Subcommittee of the Medical Society of Nova Scotia, the Health Survey Advisory Committee and the Central Committee (see Appendix A). Changes were made in some of the recommendations on the advice of these groups, and the present report includes all such amendments. The major observations, conclusions and recommendations are underlined through the report. In its present form the report has been approved by all of the above Committees and Subcommittees. The summary and major recommendations have been reviewed and approved item by item by each group. The report in its entirety has now been approved by the Advisory and Central Committees for submission to the Government of Nova Scotia by the Honorable Minister of Health.

## 2. INTRODUCTION

The Director of the Health Survey, on the advice of the Deputy Minister of Health and the Advisory Committee on the Health Survey, gave first priority to the investigation of hospital and nursing facilities and services in Nova Scotia. Basic data on hospital organization and on population trends were first collected and analyzed, and questionnaire forms were prepared for use in a detailed survey. The questionnaire was based on those used in the Manitoba survey of 1942, the Ontario Survey of 1948, and the Michigan Survey of 1946. The Director obtained assistance and advice in preparing this questionnaire from the Sub-committees appointed by the Advisory Committee members who represented the Maritime Hospital Association, the Nova Scotia Medical Society, the Registered Nurses Association of Nova Scotia and the Social Workers.

The survey of hospitals was carried out in the summer and autumn of 1949 by the Director and two fourth year medical students from Dalhousie University, who assisted in the collection of statistical data. Personal visits were made to fifty-three hospitals, including all general, tuberculosis, maternity, pediatric and communicable disease hospitals in the province. Mental hospitals and county homes were not visited at this time since these had been investigated in 1948 by the staff of the Division of Neuropsychiatry of the Provincial Department of Health. A few small private nursing homes not related to hospitals were excluded from the survey. Most of these are merely boarding houses for custodial care of a few elderly or chronically ill patients, and are not considered as hospitals.

### 3. HISTORICAL NOTES

The development of hospital services in Nova Scotia is a story of considerable interest, but only a few salient features will be reviewed here.

The first hospitals in the province, outside Halifax, were solely for the care of Army or Navy personnel, and it is less than a century ago that the first institutions were established for the care of private citizens in other parts of the province. In fact, the Halifax hospitals prior to 1850 served multiple purposes in addition to the care of the sick. They included the care of the poor, the mentally ill, orphans and sometimes the detention of the criminal or disorderly.

The first public hospital was started in 1750 in approximately the location of the present Government House. It functioned until 1768. A workhouse or Bridewell was established in 1752 in what is now the Grafton Park area, and an orphans' home was later opened nearby. A poor house hospital was operated in association with the Bridewell, and it later developed into the chief medical institution for the civilian population. After severe epidemics of smallpox in 1814-15 the physicians of the city started a petition for a separate hospital away from the poor-house hospital, which was then under the monopoly of one physician. Eventually this led to the establishment of what is now the Victoria General Hospital.

The oldest hospital still in existence is the Nova Scotia Hospital, a provincial institution for the treatment of mental diseases. A statute empowering the Governor-in-Council to select a site and erect a building for a "lunatic asylum" was passed in April, 1852 and this hospital was the outcome.

The Victoria General Hospital, in Halifax, is the oldest general hospital still in existence. The first building was completed in 1859, and known as the "Hospital for the City of Halifax". It functioned for only one year, but was re-opened in 1866 as a Provincial and City Hospital, with a capacity of 50 beds. The Province assumed full responsibility for its operation in 1885, and it was renamed in honor of Queen Victoria on her Golden Jubilee in 1887. Its capacity was increased to 180 beds in 1892, to 250 in 1922 and to 400 in 1948. Nova Scotia and Newfoundland are the only provinces in which general hospitals are owned and operated by the provincial government. The Victoria General has developed into the principal diagnostic and treatment center for the province of Nova Scotia and is also the chief teaching hospital of the Dalhousie University Faculty of Medicine.

Only three other general hospitals were established before the turn of the century. The Halifax Infirmary evolved from a Home for Aged Women established in 1886 by the Sisters of Charity, which began to receive a few patients in 1887. It was operated as an eighteen bed hospital until 1903 when a new fifty bed building was opened. This was replaced by a modern hospital building in 1933. All Saint's Hospital

at Springhill was established in 1893 by the Reverend Canon W. C. Wilson, of the Church of England to care for injured and sick miners. Aberdeen Hospital at New Glasgow was opened in 1895.

Between 1900 and 1910 several other general hospitals were established: St. Joseph's in Glace Bay (1902), Highland View in Amherst (1903), Payzant Memorial in Windsor (1904), Sutherland Memorial in Pictou (1906), St. Martha's in Antigonish (1906), Hamilton Memorial in North Sydney (1908), Harbour View in Sydney Mines (1908) and Yarmouth General in Yarmouth (1908).

Since 1910 other general hospitals have been constructed and operated by voluntary hospital associations within the community served, by religious orders, or, in a few instances, by the local government of the town or municipality. Within recent years the Canadian Red Cross Society, Nova Scotia Division, has undertaken to operate several cottage hospitals in outlying districts where a suitable building has been provided by the citizens of the community.

The first hospital for tuberculosis was the Nova Scotia Sanatorium, established by the Provincial Government in 1904. Eighteen patients could be accommodated. Emergency facilities were added during World War I increasing the capacity to 350 beds, and a new infirmary was built in 1931. In 1930 a small tuberculosis annex was established by the Provincial Department of Health at St. Mary's General Hospital, Inverness, and in 1932 annexes were constructed adjacent to the general hospitals at Antigonish and Sydney. During the next few years additional tuberculosis units were provided in association with three other general hospitals; Highland View at Amherst (1937), St. Joseph's at Glace Bay (1938) and the Glace Bay General (1940). Two additional tuberculosis hospitals have also been established by the Provincial Government at Shelburne and Point Edward, near Sydney, since the close of World War II.

In addition to the Nova Scotia Hospital already described, the facilities for care of patients with mental disease include the County or Municipal Homes and Hospitals established by several municipalities. These were originally designed for the care both of the indigent and insane. Most of them date back to the last century. In many instances the Homes as well as the Hospitals have become for the most part custodial institutions for the care of the insane.

Other specialized hospitals of early origin include the Halifax Infectious Disease Hospital established in 1890 and the Children's Hospital of Halifax (1909).

Throughout the years since the turn of the century there has been a steady growth in the hospital facilities of Nova Scotia. Table 1 indicates the increase in the number of hospital beds, as accurately as can be determined from existing records.

TABLE I

INCREASE IN HOSPITAL BEDS IN NOVA SCOTIA, 1900 TO 1948

TYPE OF HOSPITAL	BED CAPACITY BY TEN YEAR PERIOD					
	1900	1910	1920	1930	1940	1948
General (1)	401	638	1006	1611	2080	2614
Mental - Municipal Homes(2)	732	982	1094	1509	2036	2036
Nova Scotia Hospital	400	400	450	450	450	450
Tuberculosis (3)	---	28	306	372	664	1043
<b>TOTAL</b>	<b>1533</b>	<b>2048</b>	<b>2856</b>	<b>3942</b>	<b>5230</b>	<b>6143</b>

(1)

Including 5 special hospitals for maternity, pediatrics and communicable diseases, but excluding hospitals for war pensioners and members of the armed services.

(2)

Where there was a definite separation of the mentally defective or mentally ill patients from the paupers, only the beds for the first two groups have been included. However, the data are not very precise. Many of the patients admitted as paupers have been suffering from mental illness as well.

(3)

Four Tuberculosis Hospitals and the Tuberculosis Units of six General Hospitals.

It will be noted that since 1900 there has been a rapid growth in the facilities for the care of tuberculosis, a six-fold increase in the capacity of general hospitals, and a smaller increase in the number of beds for mental patients, most of which were for only custodial care in the municipal homes or hospitals.

#### 4. CHARACTERISTICS OF THE GEOGRAPHY AND POPULATION OF NOVA SCOTIA

Section 2 of the Report on the Health Survey of Nova Scotia presents considerable information on the geography of the province, industrial development, transportation, population trends, racial origin, population density, age distribution, ratio of rural to urban population and other features. These characteristics are of considerable importance in relation to hospital requirements and organization, but for reasons of space economy they will not be reproduced separately in this report. It is suggested that the reader might find it useful to review the above-mentioned section of the general report.

Because of geographic features, distribution of population, direction of transportation routes and other characteristics, it is recommended that the province of Nova Scotia be divided into nine regions for the purposes of this hospital survey. It will later be proposed that an integrated hospital system be developed, using these regions as basic units. If at a future date the Provincial Government should plan to introduce a compulsory hospital insurance system, these regions would constitute suitable administrative units. It will further be recommended in the General Report on the Public Health Survey that these same units be used as Divisions of the Provincial Health Department. It is considered undesirable to have over-lapping administrative units for health and hospital divisions. In most instances the proposed hospital regions already coincide with the existing Health Divisions.

Table 2 shows the counties or municipalities included in the proposed hospital regions with the 1941 census population and the estimated 1948 population. Further details are presented in Section 1 (c) of the Health Survey Report where Figure 9 contains a map of the proposed hospital regions and existing health Divisions.

TABLE 2

GEOGRAPHIC REGIONS OF NOVA SCOTIA SUITABLE AS  
ADMINISTRATIVE HEALTH AND HOSPITAL UNITS

Name of Region	Municipalities	Population	
		1941	1948 estimate
Atlantic	Halifax City Halifax County	122,656	140,915
Southern	Lunenburg County Queens County	44,970	47,710
Western	Digby County Yarmouth County Shelburne County	55,105	58,546
Fundy	Annapolis County Kings County West Hants Municipality	60,098	66,551
Cobequid	Colchester County East Hants Municipality	38,705	43,780
Cumberland	Cumberland County	39,476	42,418
Pictou	Pictou County	40,789	42,801
Eastern	Antigonish County Guysboro County	26,006	26,833
Cape Breton	Cape Breton County Inverness County Victoria County Richmond	150,157	165,446

It is fortunate that relatively few patients cross from any of the proposed regions to a hospital in another, although the regional borders follow county or municipal boundary lines. The province divides itself fairly naturally into the regions here outlined because of geographic barriers, routes of transportation and habits of the people. Two possible exceptions might be noted. Digby Hospital and Digby Municipality, which it serves, might be considered as a part of the Fundy Region (Annapolis Valley) or the Western Region. At present there might be some reasons for including this hospital with those in the Annapolis Valley. However, Digby Municipality is better linked with Clare Municipality for the administration of public health



services, as has been determined by a practical trial. For this reason, Digby Municipality and, therefore, Digby Hospital, have been included in the Western Region throughout this report, both for hospital and health administration. If an adequate regional hospital is established at Yarmouth, it is believed that Digby Municipality will be better integrated into the Western Hospital Region, and there is little doubt that it fits best in the Health Division centered at Yarmouth.

In Cape Breton Island it would be desirable to have two Health Divisions, one comprising Cape Breton County alone, with an estimated 1948 population of 125,712, and the other of Victoria, Inverness and Richmond Counties with a population of 39,734. However, there does not appear to be any satisfactory method by which two hospital regions could be set up within this area. The three counties of Victoria, Inverness and Richmond have no single hospital suitable as a regional center. If there were only one hospital at Inverness it might serve as such a center, but both of the present institutions are too small. Normal routes of transportation make it natural for patients from hospitals at Neil's Harbour and Baddeck in Victoria County to refer patients to Sydney, and likewise from Arichat in Richmond County. It is, therefore, recommended in this report that Cape Breton Island be considered as one administrative unit under an integrated hospital plan and likewise as one Health Division for purposes of general administration and correlation of public health and hospital activities. However, day-to-day public health activities might be decentralized with a sub-section of the Health Division, operated for the three out-lying counties from Port Hawkesbury or any other relatively central point.

## 5. METHODS OF HOSPITAL SURVEY

The survey was conducted by personal visits to fifty-three hospitals in the province. These included all of the general, maternity, pediatric, tuberculosis and communicable disease hospitals. With a few exceptions all data were collected during these visits. The hospitals for mental diseases had been included in a survey made during the summer of 1948 by the staff of the Neuropsychiatric Division of the Provincial Department of Health, and data concerning these institutions were largely obtained from the reports of that survey. Hospitals operated by the Federal Departments of Defence and of the Veterans Affairs were not visited during the survey, and information has been obtained by correspondence and interviews with the administrators.

It was found that information on the general hospitals could best be obtained by personal visits, and that sending a long questionnaire form in advance served no useful function. The Director first explained the purpose of the survey and the general content of the questionnaire to the Superintendent or Administrator. The system of records was then reviewed, and it was decided which documents or reports would provide the required statistical data. This differed considerably from one hospital to another. In order that the survey data might be comparable for all provinces, the Department of National Health and Welfare had asked that statistics be collected for the calendar year 1948. Annual reports of Nova Scotia hospitals are based on the provincial fiscal year ending November 30th. It was, therefore, necessary to adjust the statistics contained in the annual reports.

The student assistants, who accompanied the Survey Director, carried out all of the work relating to records and statistics. They obtained data concerning patient-load, area served, volume of work in various services and other relevant data. A two-page tabulation was made of information on every cancer patient treated in each hospital during the year 1948.

The Director also obtained data concerning the system of administration and financing by interviews with the administrative staff, and by reference to the By-laws and Act of Incorporation. He inspected the buildings, recording data regarding technical equipment and space provided for special services. He made a count of the beds and estimated the adequacy of each room for the number of beds set up in it. In the first hospitals visited the rooms were measured, but this was not necessary in most instances after a little experience, since a close estimate of size could be made. The minimum standards laid down in the "General Standards of Hospital Construction" under the Federal Hospital Construction Grant were used to estimate capacity. The complement recorded was the average number of beds usually set up in each room, as stated by the Superintendent. A note was also made of the actual number of beds on the day of the survey, including those set-up in corridors, sun porches and other rooms not designed as bed-rooms. Notes were made also concerning the fire-proofing and fire precautions, the general condition and repair of buildings and furniture, the professional and technical services provided, and the number of personnel on the staff. Each service was then reviewed as to space, equipment, personnel, their training and qualifications, and the type of service provided. A statement was obtained from the Administrator regarding the needs of the institution for expansion of the physical plant, modernization of the building or equipment, and increase or training of personnel. In most instances the president or chief of the medical staff or one or more senior medical members was interviewed, as well as the Administrator. In hospitals with Schools of Nursing, the superintendent or Director was also interviewed. In a few instances members of the Hospital Board were also present. Most data were recorded while at the hospital, but some general impressions and other information were noted following the visit. The survey was conducted during the months of July, August and September, 1949, but most of the statistical data were collected for the calendar year 1948.

6. NUMBER, TYPE AND DISTRIBUTION OF HOSPITALS

Table 3 shows the number and type of hospitals in Nova Scotia as of December 31, 1948, and their capacity in beds for adults and children. Figure 1 shows the distribution of these hospitals, and Appendix B presents more complete data on a map of larger scale.

TABLE 3  
NUMBER AND TYPE OF HOSPITALS IN NOVA SCOTIA

Type of Hospital	Bed Capacity Gen.Hospitals	Number of Hospitals	Bed Capacity	Number of New Hospitals	New Beds added in 1949
General, 1948	Less than 20	10	94		9
	20 - 49	16	537		41
	50 - 99	5	307		56
	100 and over	6	1031		340
General, built 1949				7	181
Pediatric		1	98		
Maternity		3	68 (1)		
Infectious		1	52		
Tuberculosis		4	835		
T.B. Unit (2)		6	202		
Mental (3)		19	2486		
Veteran's		1	600		
Defence		1	250		
TOTAL HOSPITALS		73	6619	7	627
MATERNITY HOMES		10	31		

- (1) Including two small obstetrical units of eight beds for unmarried mothers.
- (2) Tuberculosis annex to general hospitals.
- (3) Including an estimate of the number of beds used for mental patients in Municipal Homes.

Several new general hospitals were under construction during the survey in 1949 or had recently been opened. These are shown in a separate column in the table together with the size of additions to existing hospitals. The new hospitals are also shown by different symbols on the maps. Maternity homes are not included in Figure 1, but are shown in Appendix B.

Figure 1 indicates that the province has a well-scattered network of general hospitals. The newly constructed cottage hospitals have filled several wide gaps, and there are now few, if any, populated areas of the province that are not within reasonable distance from a general hospital.



## 7. GENERAL HOSPITALS

### (a) Capacity, Complement and Extent of Crowding

Tables 4(a) and 4(b) show the bed capacity of general hospitals, the complement, the officially reported capacity and the number of beds set up on the date of survey. Three special hospitals for maternity, pediatrics and communicable diseases, respectively, are included with the general hospitals. Two small obstetrical units associated with Homes for Unmarried Mothers are included in this table but will not be included in any later tables, because of difficulty in separating the duration of hospitalization from the period of care in the Home. Thirty-one obstetrical beds in 10 small licensed maternity homes are also excluded from later tables because of inadequate data.

The capacity recorded here is that estimated by the Survey Director as the number of beds which would provide a minimum of 80 square feet of floor space per adult bed, (100 square feet in a private room) 50 square feet per child's crib (80 square feet in a private room) and 20 square feet per bassinet in a nursery.(1) These observations were made only on rooms used exclusively as hospital bed rooms, not those which were used only occasionally for patients. Sun-porches which were heated and used permanently for accommodation of patients were included, although some of these did not make very satisfactory units for nursing care and the capacity had to be estimated on the basis of the shape of the room as well as floor area. The complement recorded in the tables is the average number of beds set up in the hospital, as stated by the superintendent or other official who was interviewed. Beds set up in corridors, though fairly permanent in some institutions, probably should not have been included in the complement and the totals for patient's rooms alone are, therefore, shown in brackets. Also included in Table 4(b) is the officially reported capacity of the hospitals, as recorded in annual reports to the Nova Scotia Department of Health. These data are available only for those which qualify as public institutions under the Act Relating to Local Hospitals. A number of the small cottage hospitals did not provide such data since they did not qualify as public hospitals until 1949. However, their total capacity as obtained for the survey was inserted in the table as the only available data.

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(1) General Standards of Hospital Construction - Department of National Health and Welfare, 1948.

TABLE 4(a)

BED CAPACITY AND COMPLEMENT OF GENERAL HOSPITALS BY COUNTY

COUNTY	Number of Hospitals by county	Beds-Adult		Beds-Children		Bassinets-Infant	
		Capacity	Complement	Capacity	Complement	Capacity	Complement
Annapolis	2	37	43	0	3	9	16
Antigonish	1	100	131(123)	9	16	12	22
Cape Breton	7	452	534(531)	60	85	69	122
Colchester	2	55	78 (73)	2	4	18	18
Cumberland	5	110	128	12	16	25	36
Digby	1	28	32	0	2	10	15
Guysboro(2)	2	19	19	0	2	9	10
Halifax	5	676	778(740)	110	118(107)	98	130
Hants	1	34	40	0	4	6	13
Inverness	3	81	96	3	5	17	26
Kings	3	87	93	5	9	24	27
Lunenburg	1	43	48	0	3	12(4)	12
Pictou	2	134	165	12	16	20	41
Queens	1	6	8	0	1		
Richmond	1	11	15	3	3	5	7
Shelburne	1	34	36	6	6	8	11
Victoria	1	7	8	2	3		
Yarmouth	1	36	58 (55)	5	8	10	17
NOVA SCOTIA	40	1950	2310(2253)	229	304(293)	352	523

- (1) Bed complement as stated by superintendent, including beds in corridors, etc. In brackets, complement of patients' rooms.  
 (2) Figures are for the old Guysboro Hospital.  
 (3) Cottage Hospitals not included in Government Report of 1948 have survey capacity included in this column.  
 (4) 12 bed complement but definite capacity not known.

TABLE 4 (b)

BED CAPACITY AND COMPLEMENT OF GENERAL HOSPITALS BY COUNTY

County	Number of hospitals by county	Total Beds for Adults and Children		Capacity in Gov't report (3)	Complement on date of survey
		Capacity	Complement		
Annapolis	2	37	46	45	44
Antigonish	1	109	147(139)	175	140
Cape Breton	7	512	619 (616)	722	599
Colchester	2	57	82(77)	67	82
Cumberland	5	122	144	144	141
Digby	1	28	34	35	34
Guysboro(2)	2	19	21	21	21
Halifax	5	786	896 (847)	922	887
Hants	1	34	44	42	41
Inverness	3	84	101	126	101
Kings	3	92	102	112	101
Lunenburg	1	43	51	52	48
Pictou	2	146	181	180	174
Queens	1	6	9	8	9
Richmond	1	14	18	14	17
Shelburne	1	40	42	41	42
Victoria	1	9	11	9	11
Yarmouth	1	41	66(63)	67	66
NOVA SCOTIA	40	2179	2614 (2546)	2782	2558

(1) As in 10 (a)

(2) As in 10 (a)

(3) Cottage Hospitals not included in Gov't Report of 1948 have survey capacity included in this column.



A comparison of the capacity or complement obtained on the survey can be made with the figures reported annually to the Department of Health. It will be noted that agreement is not very close. Most hospitals reported the number of beds set up instead of capacity. One hospital, which had been reported annually for many years at 71 beds, had an estimated capacity at the time of the survey of only 38 beds and children's cribs, according to minimum standards of floor space. In most hospitals it was necessary to make a personal count of the beds, cribs, and beds. Furthermore, the official reports to the Government had rarely shown any change in the number of beds from year to year unless additions had been made to the building, although internal re-arrangements may have increased the capacity by taking over sun-porches, board rooms, nurses' quarters, etc. for patients; or the capacity may have been decreased by taking over patients' rooms for a case room, nursery, offices, etc. Moreover, some hospitals counted bassinets, as well as cribs and beds in the total capacity, while others excluded bassinets from this count.

There appears to be a need for inclusion of specific definitions in the statistical forms prepared by the Dominion Bureau of Statistics to collect hospital data. The returns also need to be checked by qualified personnel at the provincial level so that inconsistencies and errors may be detected. It will later be recommended that a Director of a Hospital Division be appointed in the Department of Health. Collection of valid hospital statistics should be one of his duties.

Table 4(b) also shows that the number of beds on the date of the survey was usually somewhat less than the average complement reported by the Superintendent. This is not surprising since the visits were made during the summer months when crowding is less intense than in the winter.

The difference between bed capacity and bed complement indicates a crowding of 360 adult beds, 75 cribs and 171 bassinets in all general hospitals in the province. Sixty-three of the adult beds and 11 cribs were in corridors, x-ray rooms, offices or other quarters not designed to house patients. The beds set up in the adult patients' rooms exceeded the rated capacity by 15.2 percent; children's beds were crowded by 32.8 percent and infants' bassinets by 48.6 percent. When beds in corridors, x-ray rooms, offices, etc. were included in the complement, the crowding of adult beds was 18.5 percent.

The averages shown in these tables still do not give an accurate picture of the undesirable degree of crowding in some institutions. As shown in Table 5, there is a range from 0 to more than 50 percent in the differences between the rated bed capacity and the actual number of beds set up. One cottage hospital was 80 percent over-crowded, and two hospitals in the 20- to 49-bed class were 61 and 70 percent above capacity. Crowding of more than 20 percent is definitely undesirable, and this was observed for adult beds in 17 of the 39 general hospitals and for children's beds in 4 of the eight hospitals that had eight or more beds assigned to children. Percentage statistics for smaller children's units would be unreliable and were not calculated.

On the day of the survey of three of the most crowded hospitals many of the adult beds set up in the corridors were occupied by children who had undergone tonsillectomies and were recovering from a general anaesthetic. The danger of acquiring a post-operative pulmonary infection from the staff and visitors moving past these beds must be a serious one.

TABLE 5

NUMBER OF HOSPITALS WITH CROWDING OF ADULT, CHILD AND INFANT BED CAPACITY

Beds	Size of Hospital	Percent excess of Complement over Capacity						Total	
		0	1-9	10-19	20-29	30-39	40-49		50and over
Adult Beds	Under 20	2		2	3	2		1	10
	20-49	2	5	4	2		1	2	16
	50-99	1	1	2	1	2			7
	100 & over		1	2	1	2			6
	<b>Total</b>	<b>5</b>	<b>7</b>	<b>10</b>	<b>7</b>	<b>6</b>	<b>1</b>	<b>3</b>	<b>39</b>
Children's Beds or Cribs(1)	Under 20								
	20-49								
	50-99	1	1			1		1	4
	100 & over	1		1		1		1	4
	<b>Total</b>	<b>2</b>	<b>1</b>	<b>1</b>		<b>2</b>		<b>2</b>	<b>8</b>
Infants Bassinets(2)	Under 20								
	20-49	2		2	1	1		2	8
	50-99	1		1			1	2	5
	100 & over			1			1	3	5
	<b>Total</b>	<b>3</b>		<b>4</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>7</b>	<b>18</b>

- (1) Hospitals with a capacity of less than 8 beds or cribs for children are not included, since percentage calculations are too unreliable.  
 (2) Nurseries with a capacity of less than 8 bassinets are not included.

The crowding in infant nurseries was even more serious. Of the 18 larger nurseries, that had a capacity of eight or more bassinets, 11 showed excessive crowding, which was more than 20 percent above the standard. Calculation of individual percentages based on smaller numbers may be misleading, but the total combined capacity of the 15 smaller nurseries, of less than 8 bassinets each, was exceeded by 64 percent.

Most hospitals in Nova Scotia were designed to provide service for only a few obstetrical patients, and several of the older hospitals actually refused to admit them until recent years, except when there were serious complications. The physical facilities which were provided, when the obstetrical services began to expand, were usually inadequate. In most hospitals only a small utility room, diet kitchen or private room was converted into a nursery. These facilities have become more and more over-loaded because of the great increase in hospitalization for obstetrics, which will be discussed in a later section. In most nurseries the bassinets are placed side by side, with inadequate free working space for the nurses and inadequate protection against cross-infections. There is undoubtedly a great risk of epidemic diseases under such crowded conditions. Such outbreaks have occurred in some hospitals in the past with a high fatality rate. The fact that many hospitals have escaped such a harrowing experience is probably due largely to good luck and to good nursing service, but both of these are being strained beyond the safety point in many institutions in Nova Scotia.

The percentage of beds occupied per day also provides an index of the degree of crowding. In order for a hospital to function properly and to have space available for emergencies, all of the beds cannot be filled every day. The smaller the hospital the greater will be the proportion of beds that will have to be left unoccupied at certain times. Experience from hundreds of hospitals in the U.S.A. (1,2) has shown that the number of beds likely to be occupied on an average day varies from 40 percent in a 20 bed hospital to 84 percent in a 300 bed hospital. Use of a greater proportion of the beds can hardly be achieved without crowding.

The total patient-days of care provided by each hospital in Nova Scotia was divided by 366 to obtain the average daily patient-load for 1948. Newborn infants were not included. Percent occupancy was calculated from the average daily number of patients and the beds available for them.

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- (1) Block, Louis - Hospital Cash Budget - U.S.P.H.S. Division of Hospital Facilities, Bulletin 353, 1947.
- (2) A Guide for Hospital Planning - Oklahoma State Health Department, 1945.

Percentage bed occupancies based on the Superintendent's estimate of the average number of beds set-up in Nova Scotia hospitals (complement) are a little higher than the U. S. standards, as shown in the last two columns of Table 6. These figures suggest that the crowding has been somewhat more than was stated by the Superintendent in some institutions, particularly those in the 50 to 99 bed class. Either the data concerning average bed complement was an under-estimate or different methods of administration make for a higher bed occupancy in Nova Scotia hospitals than in those of the U.S.A. In any event, a comparison of columns 4 and 7 reveal excessive crowding beyond the rated bed capacity.

TABLE 6

PERCENT OCCUPANCY OF NOVA SCOTIA HOSPITALS(1)  
GROUPED ACCORDING TO BED CAPACITY

Bed Capacity	No. of Hospitals	Total Bed Capacity	Average daily No. of patients	Percent occupancy based on capacity	Total Bed Complement	Percent occupancy based on Complement	Standard(2) Percent occupancy
Under 20	10	94	52.5	54.7	121	43.7	40.0
20-49	16	537	452.4	83.5	664	67.9	64.0
50-99	5	307	305.1	99.4	388	78.6	68.3
100-299	5	647	609.9	95.7	797	77.4	77.7
300 & over	1	384	343.6	89.5	425	80.8	84.0
Total	37	1969	1763.5	89.6	2395	73.6	

(1) Excluding the three special hospitals for pediatrics, maternity and communicable diseases.

(2) Based on average figures calculated from "Hospital Cash Budget" Louis Block, U.S. Public Health Services Bulletin 353 - 1947.

These data on the crowding in Nova Scotia Hospitals provide an indication of the need for more hospital facilities, but do not show clearly the number of beds required to meet the problem. Another index is the length of the "waiting lists" of patients seeking admission to many of the hospitals. However, it is also difficult to obtain precise information concerning the extent of the un-met needs for hospital care from these lists. It is doubtful whether they would give an accurate estimate, since some persons would use hospital facilities for acute illness if rooms were available, but would not have their names placed on a waiting list unless the illness was likely to be a long one. These lists, therefore, give an indication of the requirements for hospital care of only the more chronic or more prolonged types of illness, but do not show the total requirements for additional beds. Moreover, some authorities consider that a small waiting list is inevitable during the months of high sickness rates. Provision of sufficient beds to eliminate this demand would result, they believe, in a low occupancy rate during the rest of the year and would increase costs unnecessarily.

Both the length of the "waiting lists" of patients desiring admission and the undesirable degree of crowding in many of the hospitals leave no doubt that the physical facilities for general hospital care are inadequate in Nova Scotia.

In some areas the need is not adequately recognized by the local authorities or Hospital Board because the patients urgently needing hospital care are admitted in spite of a dangerous degree of crowding. This policy has had a tendency to encourage an indefinite postponement of hospital expansion. In a later section a system of hospital grading will be recommended. One basic requirement in such a grading system should be the establishment of minimum standards of floor space per bed, crib and bassinet. Excessive crowding should not be permitted without loss of grading and consequent loss of financial aid from the Provincial Government. It will be argued that such a rigid ruling would sometimes deprive a dangerously ill patient of much-needed hospital care. This need not occur, since the Hospital Board could be given an adequate period of warning before the grade would be reduced, and could arrange for increased facilities during this interval. But they would not be permitted to continue operating a dangerously crowded institution for an indefinite period.

#### (b) Calculation of Bed Requirements Based on Population.

A direct determination of the extent of un-met hospital needs cannot be made in Nova Scotia since the only morbidity survey made in this province (1) contained no data on the proportion of illnesses requiring hospital treatment. However, there are several other reliable methods for estimating hospital needs. Standards based on the provision of a specified number of hospital beds per thousand of population have been proposed by various authorities. Another method, used in some surveys, is based on the percentage of total births occurring in hospital and the

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(1) The Effect of Health Insurance on the Demand for Health Services - L. Richter, Dalhousie University, 1944.

so-called "bed-death ratio" calculated from the number of days of hospital care per death. Both of these methods have been investigated in an attempt to arrive at the needs for general hospital beds in Nova Scotia, and it has been found that both have to be somewhat modified by consideration of local conditions, although they show surprisingly close agreement.

The standards based on population which are usually quoted are 4.5 to 5 hospital beds per thousand for general services (1,2) and at least 2 additional beds per thousand (3) for the care of patients with chronic illness other than tuberculosis or mental disease. In Nova Scotia there has been almost no special provision for the institutional care of the chronically ill. Although most hospitals attempt to limit or exclude the admission of such patients, some such cases are occupying beds in almost every hospital. The present institutions are, therefore, providing both general hospital services, as usually defined, and limited care for patients with chronic diseases. The extent of the bed requirements in general hospitals depends partly upon a decision as to whether separate facilities are to be provided for the care of the chronically ill. Since the types of treatment and care are somewhat different for the patient with a chronic disease than for most general hospital patients, it is recommended that separate facilities be provided. However, it is also highly desirable that an institution for the chronically ill be in close association with a general hospital, in order that high standards of medical and nursing care be maintained and that facilities be readily available for treatment of acute phases or complications of the chronic illness, as these arise. In this report separate estimates will be made of the requirements of general hospitals and chronic disease hospitals. They can be combined, if desired.

Table 7 shows the 1948 bed capacity per county per thousand of population. Bed complement is also included for comparison. The facilities provided for veterans at Camp Hill Hospital in Halifax, and for the armed services at the Royal Canadian Naval Hospital are not included in the calculations by county since these institutions provide care for a limited group. However, they are included in the provincial total, and the estimated number of persons eligible for D.V.A. hospital care (9000) are subtracted from the provincial population. No comparable deduction is made for armed services personnel since accurate data were not available on the numbers eligible for hospital care.

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- (1) Survey of Hospitals and Related Institutions, State of Oklahoma,  
1945
- (2) Standard Needs by Regulations of the Surgeon General, U.S. Public  
Health Service.
- (3) Master Plan of New York City.



TABLE 7

HOSPITAL CAPACITY AND COMPLEMENT BY COUNTY PER 1000  
POPULATION ON DECEMBER 31, 1948

County	Estimated 1948 Popu- lation	1948 Bed Capacity	Bed Capa- city per 1000	1948 Bed Complement	Bed Comple- ment per 1000
Annapolis	19,011	37	2.0	46	2.4
Antigonish	11,075	109	9.8	147	13.3
Cape Breton	125,712	512	4.0	619	4.9
Colchester	34,294	57	1.7	82	2.4
Cumberland	42,418	122	2.9	144	3.4
Digby	20,627	28	1.4	34	1.6
Guysboro	15,738	19	1.2	21	1.3
Halifax	140,915	786	5.6	896	6.4
Hants	24,322	34	1.4	44	1.8
Inverness	20,608	84	4.2	101	4.9
Kings	32,704	92	2.8	102	3.1
Lunenburg	34,452	43	1.2	51	1.5
Pictou	42,801	146	3.4	181	4.2
Queens	13,258	6	.4	9	.7
Richmond	10,878	14	1.3	18	1.6
Shelburne	14,040	40	2.8	42	3.0
Victoria	8,248	9	1.1	11	1.3
Yarmouth	23,879	41	1.7	66	2.8
Nova Scotia excluding D. V. A. and Deience	626,00	2,179	3.5	2,614	4.2
Including both	635,000	3,026	4.8	3,453	5.4

Table 8 presents the 1948 bed capacity and complement for each of the nine proposed hospital regions. The same procedure as in preceding Table was followed with respect to D.V.A. and military personnel.

TABLE 8

BED CAPACITY AND COMPLEMENT BY HOSPITAL REGION  
PER 1000 POPULATION ON DECEMBER 31, 1948

Hospital Region	Estimated 1948 Population	1948 Bed Capacity	Bed Capacity per 1000	1948 Bed Complement	Bed Complement per 1000
Atlantic	140,915	786	5.6	896	6.4
Southern	47,710	49	1.0	60	1.3
Western	58,546	109	1.9	142	2.4
Fundy	66,551	163	2.4	192	2.9
Cobequid	43,780	57	1.3	82	1.9
Cumberland	42,418	122	2.9	144	3.4
Pictou	42,801	146	3.4	181	4.2
Eastern	26,833	128	4.8	168	6.3
Cape Breton	165,446	619	3.7	749	4.5
Nova Scotia, excluding D.V.A. and Defence	626,000	2,179	3.5	2,614	4.2
Including both	635,000	3,026	4.8	3,453	5.4



The capacity of all general hospitals in the province as of December 31, 1948, provided 3.5 beds per thousand. The complement was 4.2 per thousand. There was considerable variation between counties (Table 7) but comparisons are not very reliable since part of the population of one county is often served by a hospital in another. Data for hospital regions (Table 8) are more stable since there is relatively little transfer of patients from one to another, with the exception of the referral of major diagnostic or treatment problems to Halifax hospitals.

The total number of hospital beds in the Atlantic Region should not be related solely to the population of that county since most of these hospitals provide special services for the whole province. Only 79.3 per cent of patients in Halifax City hospitals (excluding Camp Hill and the Royal Canadian Naval Hospital) were residents of Halifax City or County. The beds ordinarily used by the population of this region may, therefore, be calculated at 4.4 per thousand instead of 5.6, and the figures for the other counties should be slightly increased.

In attempting to determine how many beds per thousand should be provided in Nova Scotia, the experience of the Eastern Region (Antigonish and Guysboro Counties) is of great interest. The institutions of this area had a capacity of 4.8 beds per thousand and a complement of 6.3 in 1948. According to the American standards quoted above these should have provided enough beds for general hospital services. However, they have not proven to be sufficient, as indicated by the "waiting list" and the crowding at St. Martha's Hospital, Antigonish, which is the regional hospital of this area. Since no other facilities are available for the care of the chronically ill, St. Martha's Hospital provides considerable service for such cases, as well as for patients with acute illnesses. However, the proportion is not greatly in excess of those in most other regional hospitals. Plans are now being made for an addition of more than 100 adult beds to this hospital, and 19 additional beds are being provided in cottage hospitals in Guysboro County. These will increase the bed capacity to 9.6 per thousand in the Eastern Region, or 9.0 per thousand if a proper proportion of the population of Inverness and Richmond Counties is included. The size of the addition to this hospital was determined by the local hospital authorities and they are convinced that it is fully needed. A high proportion of the population is covered by Blue Cross Hospital Insurance and there is a heavy demand for hospital care. Approximately 20 of the added beds will be used exclusively for the care of chronically ill patients, but the remainder, somewhat more than 8 beds per thousand, will be for the acutely ill.

It is of interest, therefore, to note that the only region in the province which has a complement of more than 6 beds per thousand is finding this number insufficient to provide for the

care of the acutely ill and for a limited proportion of the chronically ill. This experience would seem to indicate that a standard of 7 beds per thousand would probably be the absolute minimum that should be set as an objective for this province. If the chronically ill are cared for in separate institutions or separate sections of a general hospital, these beds might be allocated in the proportion of 5 for the acutely ill and 2 for the chronics, although further experience is required to determine whether these are the proper proportions in this province. Probably 7.5 to 9.0 beds per thousand will eventually be required for both general and chronic disease hospitals in areas where a considerable proportion of the population is covered by hospital insurance. In Antigonish County 75 to 80 per cent of the population have Blue Cross Hospital Insurance. This is a much larger proportion than in any other area of the province most of which have approximately 20 per cent coverage. It is explained by the fact that there were several cooperative or mutual benefit insurance plans operating for many years, largely under church organizations, which were absorbed into the Blue Cross plan. The introduction of compulsory hospital insurance by the Provincial Government would undoubtedly increase the demand for hospital care in all parts of the province, at least to the level which it has reached in Antigonish County. Complete coverage would probably result in a demand that could not be met by less than 9.0 beds per thousand for acute and chronic cases. Possibly the provision of nursing homes as a less expensive type of care for those needing only custodial and nursing attention, and the addition of out-patient departments, home nursing and similar services might reduce the demand for in-patient care somewhat, but one cannot be certain of the extent of such reduction. In scattered rural areas patients must be further advanced in convalescence before they can return home. This is another factor accounting for the large number of beds needed in the Eastern area. Convalescent nursing homes might reduce the duration of stay in hospital and help lower the costs somewhat. In general, however, it has been the experience elsewhere that the demands for hospital care continue to grow with each new service. One cannot look for a very great reduction by any of the above methods.

In the following pages the bed requirements of general hospitals for care of the acutely ill are calculated on the basis of 5 beds per thousand population and also of 6 beds. Requirements for care of the chronically ill are discussed in a later section.

It should not be inferred that the general hospital beds, needed to reach a standard of five or six per thousand for the population of any county or region, should all be located in hospitals within the geographic borders of that area. Sometimes a considerable part of the population is served by a hospital in another county. A certain proportion of the beds should also be provided at regional and provincial hospitals to which patients are referred. Data were collected on the survey regarding the place of residence

of all patients who were in general hospitals in 1948. ( Appendix C ) These figures provide a fairly good indication of the hospitals in which patients from each county are likely to seek attention. Comparison with the annual reports of the hospitals for preceding years show the figures to be relatively stable. The additional beds needed to reach a standard level of 5 or 6 per thousand, or any other standard, can be allocated according to the same distribution. (Appendix D) For example, 1511 patients residing in Annapolis County were hospitalized during 1948 in all Nova Scotia general hospitals, as shown in Appendix C; 689 in Soldier's Memorial Hospital at Middleton; 422 at the Annapolis General Hospital, etc. If the people of Annapolis County were provided with 95 general hospital beds (5 per 1000) it is assumed that 689/1511 of the 95 beds or 43, should be at Middleton, 27 at Annapolis, etc. A similar calculation has been made for every hospital in the province (Appendix D). This method of calculation results in an allocation of some beds from every region to the provincial referral centers, such as the Victoria General Hospital in Halifax. Table 9 shows the number of beds required to provide 5 or 6 per thousand for the 1948 population of each hospital region, and also shows how many of these should be located within the geographic borders of the region according to the 1948 patient distribution.

TABLE 9

ESTIMATED BED REQUIREMENTS BY HOSPITAL REGION  
ALLOCATED ACCORDING TO 1948 PATIENT DISTRIBUTION

Hospital Region	Estimated 1948 Population	Hospital bed capacity in 1948	Beds needed to provide for 1948 regional population		Beds needed within region	
			5 per 1000	6 per 1000	5 per 1000	6 per 1000
Atlantic	140,915	786	705	845	939	1128
Southern	47,710	49	238	286	154	186
Western	58,546	109	293	352	284	340
Fundy	66,551	163	333	400	324	386
Cobequid	43,780	57	219	263	159	193
Cumberland	42,418	122	212	254	195	234
Pictou	42,801	146	214	257	200	239
Eastern	26,833	128	134	161	137	165
Cape Breton	165,446	619	827	992	783	939
NOVA SCOTIA	635,000	2,179	3,175	3,810	3,175	3,810

This table indicates that except in the Atlantic and Eastern Regions fewer beds are needed within the area than the total number required for the population of the region. This is to be expected since patients are referred out from each region to hospitals in Halifax, and a number of the beds are allocated there by this method of calculation. To a lesser extent there is a similar patient-movement from parts of Cape Breton Island to St. Martha's Hospital in the Eastern Region, which slightly more than compensates for the movement of patients from this area to the provincial referral centers. It is emphasized that these figures are based on the estimated 1948 population. In planning for the needs of a growing population a larger number of beds would be needed, as will be shown in Table 17.

Table 9 showed that the present capacity of 2179 general hospital beds would have to be increased to 3175 to provide 5 beds per thousand or to 3810 to provide 6 beds per thousand for the whole province, increases of 46 to 75 per cent in the total number of beds over the 1948 capacity. As indicated in later sections, a part of this need will be met by construction under way in 1949.

(c) Calculation of Bed Requirements Based on Maternity Needs and Bed-Death Ratio.

A second method of estimating hospital needs has been suggested by some authorities (1) who consider it more accurate than providing a fixed number of beds per 1000 population. This method is based on the observation that the need for hospital beds is closely related to the number of births and deaths which occur in hospital. For example, if the average stay in hospital of obstetrical patients is 8 days, each one hundred births would require 800 bed-days; that is  $800/365$  or 2.2 occupied beds per year. If the occupancy of beds was 70 per cent, 3 beds would have to be provided to allow 2.2 to be occupied at all times. To apply this method of estimation requires a knowledge of the per cent of births which occur in hospital, the average duration of hospitalization; the size of obstetrical units, which determines the probable per cent occupancy; and the average number of births to be expected in the area each year.

(1) Hospital Resources and Needs - Report of Michigan Hospital Survey, 1946.

To this estimate of need for obstetrical beds is added an estimate based on the proportion of deaths occurring in hospital. In the U.S.A. the public uses about 250 days of general hospital care for each death and correlated sickness in a general hospital. This relationship may be expressed in terms of occupied beds per death by dividing 250 by 365 days which equals 0.685 or about 0.7. This is the "bed-death ratio". Its validity is said to lie in the fact that the ratio varies little from state to state. Hospital needs, in terms of occupied beds, can be estimated by multiplying the bed-death ratio by the number of deaths expected to occur in hospital, as estimated from past experience. The size of hospital units will then determine how many beds will be needed to provide the required number of occupied beds. The bed-death ratio expresses the relationship between length of stay and the hospital death rate. Changes in either will affect the estimate.

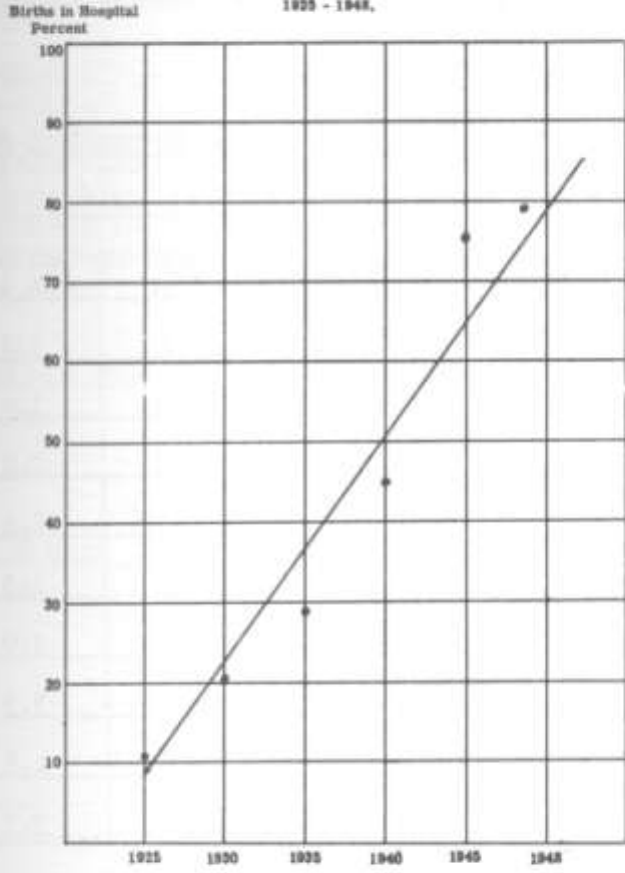
Data have been compiled to estimate the needs for general hospital beds in Nova Scotia by these methods and to compare them with the estimates based on a standard of 5 or 6 beds per thousand for each hospital region.

In estimating the requirements for maternity beds, the tremendous increase in the proportion of babies born in hospital must be considered. Table 10 and Figure 2 show the number of births occurring in hospital as a per cent of the total births in the province. This is given at five year intervals from 1925 to 1945 and for the year 1948.

TABLE 10  
PER CENT OF TOTAL BIRTHS OCCURRING IN HOSPITALS  
1925 TO 1948

YEAR	TOTAL BIRTHS	BIRTHS IN HOSPITAL	PER CENT IN HOSPITAL
1925	11,400	1,194	10.5
1930	11,346	2,280	20.1
1935	11,617	3,270	28.1
1940	12,856	5,753	44.7
1945	15,527	11,589	74.6
1948	17,791	14,153	79.6

**FIGURE 2**  
**PERCENT OF TOTAL BIRTHS OCCURRING IN HOSPITALS**  
**1925 - 1948,**



There has been a striking increase in the proportion of births occurring in hospitals. Only 10.5 per cent of babies were born in hospital in 1925 and 79.6 per cent in 1948. This trend is recognized as a sound development resulting in better obstetrical and nursing care. There has been a definite decrease in infant and maternal mortality during the same period. The extension of obstetrical services has placed an increased load on the hospital facilities and some obstetrics could be safely done in the homes. However, it is recommended that provision be made in hospitals to take care of all obstetrics, since there is a strong trend in that direction and definite gains can be made thereby in maternal and infant hygiene.

TABLE 11

PER CENT OF 1948 BIRTHS OCCURRING IN HOSPITAL BY REGION

REGION	TOTAL BIRTHS	BIRTHS IN HOSPITAL	PER CENT IN HOSPITAL	BED CAPACITY PER 1000
Atlantic	4592	4126	89.8	5.6
Southern	1080	486	45.0	1.0
Western	1577	859	54.5	2.0
Fundy	1786	1424	79.7	2.4
Cobequid	1200	982	81.8	1.3
Cumberland	1074	768	71.5	2.9
Pictou	1177	1100	93.5	3.3
Eastern	738	635	86.0	4.8
Cape Breton	4567	3773	82.6	3.7
NOVA SCOTIA	17791	14153	79.6	3.5



In four of the regions there are less than 2.5 active treatment beds per thousand, one half of the minimum recommended standard. Two of these areas also had the lowest proportion of births in hospital in 1948, 45 and 54 per cent. This is not surprising, since maternity beds were not available. In Annapolis, Cochester and Pictou Counties more than 90 per cent of births occur in hospitals and in Cape Breton and Halifax Counties it is 89 per cent. It would, therefore, appear that estimates of obstetrical bed requirement should be based on the assumption that 95 to 100 per cent of births will occur in hospitals within the next ten years. In areas where the proportion is still relatively small, it will probably increase as hospital facilities become more adequate.

The average period of hospitalization for obstetrical patients varies considerably throughout the province. Presumably this depends at least partly upon how far the medical staff has gone toward accepting the modern trend of early amputation and discharge. The shortest average hospital stay for all obstetrical patients in a hospital in 1948 was 5.4 days, and the longest was 10.1 days. The range is shown in Table 12.

TABLE 12  
AVERAGE DURATION IN HOSPITALS OF OBSTETRICAL  
PATIENTS IN 1948

DURATION OF HOSPITALIZATION IN DAYS	NUMBER OF HOSPITALS
5.0 - 5.9	3
6.0 - 6.9	12
7.0 - 7.9	11
8.0 - 8.9	5
9.0 - 9.9	2
10.0 -10.9	2

The average stay in hospital of obstetrical patients for all 35 hospitals, which have obstetrical units, was 7.6 days and the median was somewhat less, 7.3 days. In one hospital that has a reasonably adequate number of beds for the area served, the duration of stay was high, 10.1 days. However, it was also high, 9.7 and 10.0 days, in two of the most over-crowded hospitals in the province. The availability of hospital beds does not seem, therefore, to be a major factor in determining the length of time a patient is kept in hospital. It is probably more dependent upon the custom of the obstetrician. It is believed that the median of 7.3 days would be the better figure to use in calculating bed requirements since the trend is toward shorter hospitalization.



Obstetrical units in 28 of the 35 hospitals are of less than 20 beds each. Two hospitals have more than 50 beds each, and 5 have 20 to 49 beds. If obstetrical patients are isolated, as they should be, the obstetrical units will not be used for other types of cases at any time. Per cent occupancy of beds will, therefore, be low in a 20 bed obstetrical unit just as it is in a 20 bed hospital.

Calculations of maternity bed requirements in Nova Scotia have, therefore, been made on the basis of :

- (a) One hundred per cent of births occurring in hospital.
- (b) An average stay in hospital of 7.3 days for each patient.
- (c) A bed occupancy of 50 per cent for hospitals with obstetrical units of less than 20 beds, 55 per cent for those of 20 to 49 beds, and 65 per cent for those of 50 to 100 beds.
- (d) The average annual number of births in each hospital region for the five year period 1944 to 1948, inclusive.

An increase in population or change in the birth rate would affect these requirements. However, a ten per cent increase in population over the next ten years - continuing the present trend - would be partly balanced by the slight post-war decrease in the birth rate. In addition, these estimates are based on 100 per cent hospitalization, and it is not likely that more than 90 to 95 per cent would be reached. It is believed that a reasonable estimate can be made from the above four items.

Table 13 indicates the requirements by hospital region for maternity beds calculated on this basis.

The capacity of obstetrical units, based on floor space, was difficult to estimate during the survey. Some hospitals did not use a special section of the building exclusively for maternity patients. The capacity was, therefore, calculated from the complement, assuming the same degree of crowding in the obstetrical department as for the hospital as a whole. This table indicates that the capacity of facilities available for obstetrics in 1948 provided 67.6 per cent of the calculated requirements, and the usual bed complement was within 31.2 per cent of the needs. Over 100 beds for maternity will be added in the new hospitals completed or under construction in 1949. This will meet the requirements in the Southern Region, and will improve most of the others except the Western and Cumberland Regions, which will still be below requirements.

TABLE 13

MATERNITY BED REQUIREMENTS BY HOSPITAL REGION

HOSPITAL REGION	MATERNITY BED REQUIREMENT	1948 MATERNITY BED CAPACITY (1)	1948 COMPLEMENT
Atlantic	135	127	144
Southern	43	13	16
Western	64	29	36
Fundy	68	42	51
Cobequid	45	14	20
Cumberland	43	27	32
Pictou	45	39	48
Eastern	29	24	31
Cape Breton	167	117	141
<b>NOVA SCOTIA</b>	<b>639</b>	<b>432</b>	<b>519</b>

(1) Calculated from the ratio of total capacity to total complement in each hospital.

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It should be pointed out that the Grace Maternity Hospital and Halifax Infirmary received four to five per cent of patients from areas outside Halifax County. The requirements for the Atlantic Region should, therefore, be approximately 143 beds rather than 135, and those of the other areas should be reduced slightly.

One additional factor which will increase the bed requirements somewhat is the modern trend toward "natural" child-birth. The present over-crowded, and often noisy, labor-rooms will require modernization with provision of more room for patients while in labor. Improvement along these lines is especially needed in the larger units.

To these requirements for obstetrical beds must be added the bed requirements for care of the acutely ill. This is calculated from the bed-death ratio. Precise data are not available on the number of days of institutional care per hospital death

death in Canada. The U.S. figure, which is said to be very stable from state to state, is 250 days. The figure, is considerably higher for Nova Scotia, and there are indications that it is also higher in other parts of Canada. Table 14 shows the average number of days of hospital care for each death in hospital per year at five year intervals from 1925 to 1940, and for each of the five years, 1944 to 1948 inclusive.

TABLE 14

AVERAGE PERIOD OF HOSPITAL CARE PER DEATH  
IN HOSPITAL IN NOVA SCOTIA

YEAR	TOTAL PATIENT DAYS	DEATHS IN GEN. HOSPITALS	AVERAGE DAYS PER DEATH
1925	261,421	662	394.9
1930	336,471	977	344.4
1935	392,494	1152	340.7
1940	454,894	1318	345.1
1944	543,443	1663	326.8
1945	567,952	1654	343.4
1946	600,260	1522	394.4
1947	602,078	1593	377.9
1948	696,510	1778	391.7

The average days of care per death in hospital was relatively stable between 1930 and 1945, although considerably higher than the quoted U.S. figure. Moreover, it has risen higher in the last few years, and averaged about 362 days from 1944 to 1948. It also varied considerably from one hospital region to another as shown in Table 15.

TABLE 15  
PERIOD OF HOSPITAL CARE PER DEATH BY HOSPITAL  
REGION IN 1948

REGION	TOTAL PATIENT DAYS	DEATHS IN HOSPITAL	AVERAGE DAYS PER DEATH	PER CENT OF REGIONAL DEATHS OCCURRING IN HOSPITAL
Atlantic	243,237(1)	455 (1)	534.5	35.2
Southern	13,156	46	286.0	9.3
Western	31,640	124	255.1	20.4
Fundy	43,576	175	249.0	26.1
Cobequid	24,446	67	364.9	17.4
Cumberland	31,127	98	317.6	24.1
Pictou	44,083	150	293.9	31.5
Eastern	48,063	106	453.4	35.9
Cape Breton	217,182	557	389.9	38.4
NOVA SCOTIA	696,510	1778	391.7	29.2

(1) Excluding Halifax Infectious Disease Hospital.

There appears on first inspection to be a relation between the average days of care and the percentage of total deaths occurring in hospital. However, a scatter diagram does not show any striking correlation. It would seem, however, that the regions with a larger number of beds per thousand have a higher average number of days of care per death, as might be expected. There is a rather wide range in the regional figures, varying from about 250 days of care per death to nearly 550.

Populations are small and some fluctuations might be expected, but when they are as large as these it would seem undesirable to apply one standard to the whole area.

Calculations were also made of the average days of care per death for each region over the five-year period 1944 to 1948, and although there were some fluctuations from year to year in most regions, the differences between regions remained relatively constant. Under these circumstances it seemed undesirable to use the provincial average of 362 days, and estimates of bed requirements have, therefore, been

made for each region using the five-year average bed-death ratio of that region, a relatively stable figure.

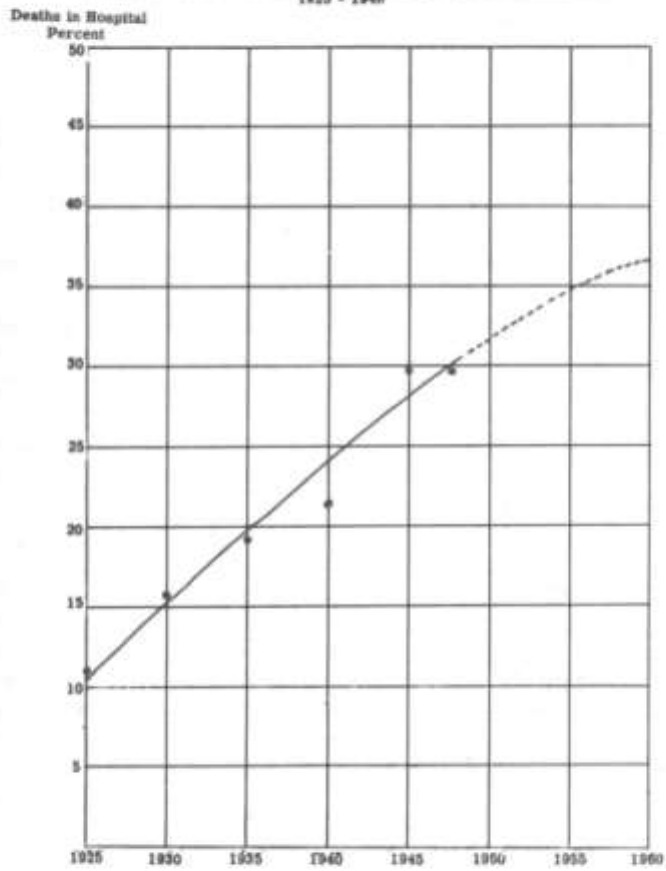
The number of deaths which may be expected to occur in hospital is another variable factor to be considered. As shown in Table 16, it has increased progressively since 1925. These calculations are for deaths in general hospitals only, excluding those in hospitals for tuberculosis and mental diseases.

TABLE 16  
PERCENTAGE OF DEATHS OCCURRING IN GENERAL HOSPITALS  
1925 - 1948

<u>YEAR</u>	<u>TOTAL DEATHS</u>	<u>DEATHS IN HOSPITAL</u>	<u>PER CENT IN HOSPITAL</u>
1925	6045	662	11.0
1930	6206	970	15.7
1935	6164	1143	18.7
1940	6239	1318	21.1
1945	5625	1634	29.0
1948	6098	1778	29.2

Figure 3 shows that this increase has almost followed a straight line, but the fitting of an exponential curve to the data suggests that the rise is likely to level off at about 50 per cent. The level of 35 per cent will probably be reached by 1961, and this figure will be used in calculating bed requirements. It is considered desirable in planning hospitals for construction within the next few years to allow for trends that can be foreseen for at least a ten year period.

FIGURE 1  
PERCENT OF TOTAL DEATHS OCCURRING IN GENERAL HOSPITALS  
1925 - 1948



A calculation of the bed requirements of general hospitals has, therefore, been based on;

- (1) The regional five-year averages of days of care per hospital death.
- (2) An expectation that 35 per cent of deaths will occur in hospital by 1961 in all regions.
- (3) The average number of deaths in each region for the five-years 1944-1948.
- (4) A 74 percent occupancy of hospital beds, which was the 1948 average.
- (5) The requirements for maternity beds as already indicated in Table 13.

Table 17 shows the bed requirements by region based on these factors. The distribution was modified to take account of referrals to regional and provincial centers. The standards recommended in the Michigan Survey of 1946 (1) seemed to be based on a much higher proportion of referrals than is usual in this province. Adjustment was, therefore, made by multiplying the calculated bed requirement for each region by a factor calculated from the two sections of Table 9; namely, the ratio of the number of beds to be located in a region to the total number required to serve the population of that region. The bed requirements to provide 5 or 6 beds per 1000 for the estimated 1961 population are also included in Table 17 for comparison. It will be noted that these figures are higher than those shown in Table 9, which represented the immediate needs based on the 1948 population.

Since this calculation of requirements is based on the average number of deaths in each region from 1944 to 1948, an increase in population and, therefore, in total deaths would also increase the bed requirements. However, it will be a few years before 35 per cent of deaths will occur in hospitals, and the estimates shown in Table 17 are probably reasonably close to the needs based on present demand for services. They are more likely to be somewhat conservative than to be an over-estimate.

- (1) Hospital Resources and Needs,  
Michigan Hospital Survey, 1946.

TABLE 17

BED REQUIREMENTS BY HOSPITAL REGION CALCULATED  
BY THREE METHODS

REGION	Required Bed Capacity Based on			Existing or Planned Capacity		
	5 PER 1000 (1)	6 per 1000 (1)	Birth and Death Rates (2)	1948	With 1949- 1950 Additions	With projected additions
Atlantic	1065	1279	1081	786	824	1174
Southern	158	191	122	49	145	145
Western	293	350	273	109	109	109
Fundy	356	426	304	163	204	259
Cobequid	182	220	148	57	113	113
Cumberland	205	246	213	122	125	125
Pictou	202	243	215	146	244	244
Eastern	135	161	208	128	256	256
Cape Breton	859	1030	861	619	728	1010
NOVA SCOTIA	3455	4146	3425	2179	2748	3435

(1) Based on 1961 population and 1948 distribution of patients.

(2) Requirement for maternity beds plus that based on the regional bed-death ratio modified according to 1948 referrals of patients to regional centers.



The total bed requirements based on maternity needs and the bed-death ratio is 5.5 beds per thousand calculated on the 1948 population or just less than 5 beds per thousand of the 1961 estimated population. In five of the regions the calculation based on 5 beds per thousand is very similar to that based on the bed-death ratio. In the other four there is considerable difference. No one method of calculating requirements can be accepted as being more than a rough guide, to be modified by consideration of local needs. In areas which have been far below bed requirements it is recommended that a minimum of 5 beds per thousand be the objective. In areas where more adequate hospital facilities have been available for some years and the demand for hospital care has grown, the calculation based on the bed-death ratio and maternity bed requirements is considered more valid. For example, in the Eastern Region the latter method would provide for 7.8 per thousand, which is relatively close to the estimate made by the authorities of St. Martha's Hospital; namely, 9 beds for acute and chronic illnesses. It is again emphasized that a more rapid growth in the demands for hospital care should be anticipated if a compulsory hospital insurance system were to be introduced. Under such circumstances the largest of the figures shown in this table for any region should be regarded as the minimum objective in providing hospital beds, and these would no doubt require additions within a few years after the insurance plan came into operation.

Column 5 shows that the Southern, Pictou and Eastern Regions will be adequately provided with general hospital beds on completion of construction now in progress or already approved to receive assistance under the Hospital Construction Grant. If construction is undertaken that is now under consideration the Atlantic and Cape Breton Regions will also have somewhat more than their calculated requirements. The other four regions, Western, Fundy, Cobequid and Cumberland, will still be below their calculated requirements, particularly Western and Cumberland

#### (d) Size and Location of Proposed Hospital Units

As already pointed out in Figure 1, this province has a well-located group of general hospitals. It is believed that few areas need a hospital where none now exists, and for the most part any additions should be made to present institutions. Distances between existing hospitals are relatively short and transportation facilities are good in most areas, with main highways kept open during most of the winter. There is no doubt that small cottage hospitals are very desirable in truly isolated outlying districts. Most of those established in recent years and operated by the Canadian Red Cross Society were located in communities which were some distance from larger hospitals. These have filled most of the wide gaps between the larger hospital centers. There are few other areas of the province where such a need now exists, and it would seem more desirable to provide Government aid

for construction of larger district or regional hospitals where adequate technical and professional services of a specialist type can be provided, than to multiply the number of small community hospitals.

The building of cottage hospitals in towns that now have reasonably good access to larger hospitals would, it is believed, be a grave error. The people of the town expect to have almost all major illness treated in such an institution, although specialist services are usually not available, and authorities recognize that such institutions should be strictly limited to medical care, emergency surgery and uncomplicated obstetrics.

The financial burden of such a hospital on the community is a heavy one. It is estimated by authorities that the cost of operation in a 3 or 4 year period equals the initial cost of the building and equipment(1). This is borne out by experience in this province. The average operating expenditures of 33 general hospitals in 1948, including the tuberculosis units in general hospitals, was \$1929.42 per bed per year, with a range from \$1100. to \$2800. Since accounting systems vary a great deal, and a few hospitals apparently do not include costs of contributed services or donated supplies, it is likely that this average is an underestimate of the true annual cost per bed. The initial cost of construction of new hospitals in the last two years has ranged from \$6500 to \$10,000 per bed. A community must, therefore, be in a financial position to provide for the large annual costs as well as the initial outlay, although the latter is usually the only item that is emphasized during the planning stage. True, most of these operating costs will be obtained through income from patients, but this does not change the situation; it is still the people of the community who bear the cost whether in patient's fees or contributions to cover the annual deficit. Costs per patient-day are particularly revealing. The average cost for the two years 1948 and 1949 in cottage hospitals of less than 20 beds was \$6.82 per patient-day. In hospitals of 20 to 49 beds the cost in the same period averaged \$5.04, and in hospitals of 50 to 99 beds, \$7.19. Further data on hospital finances will be presented in a later section. However, it is obvious from these figures that hospitals of less than 20 beds are an expensive method of providing hospital care. High overhead charges, low bed occupancy, and other factors keep unit costs high. At the same time facilities are not available to give nearly as adequate a service as can be provided at the same or lower cost in the larger hospitals.

In addition, the larger district and regional hospitals must still provide a considerable portion of the hospital service for the more difficult cases from the communities with a cottage hospital, but their administrators or boards find it almost impossible to obtain financial support from the smaller community that is also maintaining its own institution. Additional financial aid from Government is required to compensate regional hospitals which provide specialty services for patients from neighboring hospital districts.

(1) Black, L. - Hospital Cash Budget, U.S. Public Health Service Bulletin 353, 1947.

It is stated by authorities that a hospital of less than 50 beds cannot support an x-ray or laboratory service economically. The provision of specialist services also requires an adequate patient-load in order not only to operate economically, but also to develop and retain the skill of the specialist. Unless there is a large concentration of population, it is necessary to have hospitals located at a considerable distance from each other, if any are to reach a size sufficient to support modern technical services and professional specialists.

For these reasons it is sounder economics to pay additional transportation costs to move patients to a large, fully-equipped and well-staffed medical center than to provide hospital facilities near at hand. Modern methods of transportation, coupled with improved emergency care by the local physician, result in no more risk in moving a patient 25 or 30 miles, than in moving him 5 or 10 miles to a cottage hospital, which has in any event inadequate facilities for more than emergency care.

It is fully realized that local pride, jealousy and "patriotism" enter the picture, and it is often difficult to get two adjacent communities to cooperate in constructing a hospital in one of them. The convenience of the local doctor is also a potent factor, which influences his support. However, it is recommended that, except under special circumstances, no grants be made for construction of new general hospitals in communities that are within 25 miles of an existing hospital. That is, general hospitals should be at least 50 miles from each other. Emphasis should rather be placed on the enlargement of existing institutions to a size which makes economic operation more feasible, and also makes better services possible. In some areas where hospitals have been established in the past in very close proximity to each other, consideration should be given to having some of these institutions closed as their buildings and other facilities become obsolescent, rather than providing provincial government aid in rejuvenating them. This procedure has been successfully followed in other provinces.

If no additional hospitals are to be provided it is possible to carry the calculations shown in Table 17 on step further and to show at which of the existing hospitals additional beds would be placed to meet the requirements. These calculations are based on the assumption that people will continue to follow the same habits in selecting which hospital they will enter, as they did in 1948, and that the medical profession will also follow the same habits in referral of patients to hospital. It must be emphasized that such a distribution of additional hospital beds is not necessarily to be recommended, and in some regions extensive changes are desirable if the best form of hospital service is to be provided. Otherwise there will still be a large number of small hospitals with inadequate or uneconomic technical and specialist services.

The major need is to develop an integrated hospital system in order to provide the best services for the people of each region and of the whole province. In some areas this may require that all

of the extra beds needed to meet the standard be added to only one of the existing hospitals which is centrally located, so that a complete service can be provided on an economic basis. This requires co-operation of hospital boards and professional staffs, and a willingness to subordinate the interests of a single institution in order to improve the service to the people of the whole area. At present each hospital is a totally independent unit.

There are two major arguments for the development of an integrated hospital program:

- (1) The development and maintenance of hospital service of a high standard.
- (2) The provision of such service on an economic basis

The major aim in the development of any hospital program should be the provision of a high quality of service available to the maximum number of people. In so far as possible this would mean also the provision of an adequate number of hospitals so located that every doctor would have access to one. However, making hospital services readily available to the maximum number of people by scattering the hospitals widely in all communities may decrease the quality of the service and greatly increase the costs. A reasonable "middle road" must be found which will consider both the quality and the cost of the program. Authorities recognize the need for four types of hospitals, which should be related in an integrated program, if service is to be adequate and economical. In Nova Scotia these may be called the community, district, regional and provincial types of hospital. The community hospital is a unit of less than 20 beds providing a limited type of service and usually called a cottage hospital. The district hospital is a larger institution providing a more complete service but usually too small to warrant, or to make economically feasible, the provision of complete specialist services and technical diagnostic or treatment aids. Regional hospitals, except in one or two areas of the province, are practically non-existent. They are institutions of approximately 100 beds, providing fairly complete laboratory, radiological and other special technical and professional services. Their development is probably the greatest need in order to provide an improved hospital service in this province. The chief provincial center is the Victoria General Hospital, and to a lesser degree the Children's Hospital and Grace Maternity Hospital in Halifax.

In an integrated system the community and district hospitals would be encouraged to transfer patients to the regional hospital, when specialist services of a technical or professional type were required. Any integrated hospital program must recognize that the general practitioner is the foundation of the medical service of the institution, and that means must be found to compensate him for his work in proportion to its importance. However, the program must also take account of the increasing complexity of medicine and provide that the more complex services be carried out by persons who are adequately trained in a special field following graduation in medicine.

Careful consideration of all of these factors results in the recommendation that additional beds to meet the requirements in each hospital region of Nova Scotia should be added to only one centrally located hospital in each region, or to more than one, only if distances and population size warrant it. It is also recommended that such a regional hospital be granted financial assistance from the provincial government and/or the municipal governments to assist in setting up the special services for the whole region, and in maintaining them. The organization of such an integrated hospital system is important if the best quality of service is to be provided at the present time, and it will become more vitally essential if a system of government-supported compulsory hospital insurance is introduced, as has been done in some provinces. Further recommendations regarding the set-up of such an integrated hospital program will be presented in a later section.

#### (e) Recommended General Hospital Facilities by Region

The following sections contain a review of the present hospital facilities and the estimated requirements in each of the proposed regions calculated on the basis of 5 or 6 general beds per thousand and on the bed-death ratio. The tables indicate how the beds would be allocated to existing hospitals on the basis of 1948 patient distribution and how it is believed they should be distributed under an integrated hospital program.

##### Atlantic Region:

The City of Halifax contains the Victoria General Hospital, an institution financed by the provincial government to which a considerable number of cases are referred for diagnosis and treatment from all parts of the province. Facilities and specialist services are available in all fields of medicine and surgery. The major diagnostic and treatment center for cancer is located here, and the provincial Poliomyelitis Clinic. The hospital is also the chief clinical teaching center for Dalhousie University Faculty of Medicine. In 1948 40.2 per cent of the patients were from Halifax City and 64.6 per cent were from the city and county. Services to provincial patients constituted 35.4 per cent of the total. The Children's Hospital is the only pediatric hospital in the province and also receives some patients from other counties. In 1948 53.4 per cent were from Halifax City, 86.4 per cent were from the city and county and 13.6 per cent from other parts of the province. The patients of the Grace Maternity Hospital, were almost all drawn from Halifax City or County, 53.3 per cent from the city alone and 95.1 per cent from the hospital region. Only 4.9 per cent are from other counties. The Halifax Infirmary is a general hospital operated by the Sisters of Charity, receiving 56.9 per cent of its patients from the City of Halifax and 88.7 per cent from the whole Atlantic Region. It, therefore, received 11.3 per cent of referred cases from outside Halifax County in 1948. In addition the Department of Veterans Affairs operates Camp Hill Hospital, and the Department of Defence, the R.C.N. Hospital.



Table 18 shows the present capacity and the requirements of these institutions calculated by various methods and the recommended capacity in an integrated provincial hospital program. The effect of referrals from other regions of the province is taken into account in the mode of allocation.

TABLE 18

BED REQUIREMENTS IN ATLANTIC REGION

HOSPITAL	Required Bed Capacity Based on			Present and Planned Capacity			Recommend- ed capac- ity in Integrated Plan	Recommen- ed Grouping (3)
	5 per 1000	6 per 1000	Mater- nity & B.D.R.	1948	1949-50	Planned		
Children's	160	194	170	98	98	198	198	P
Grace	114	137	72	60	60	60	72	P
Infectious	13	15	14	52	52	52	14	D
Infirmery	333	397	353	192	192	192	192	R
Victoria General	445	536	472	384	384	634	634	P
<b>TOTAL</b>	<b>1065</b>	<b>1279</b>	<b>1081</b>	<b>786</b>	<b>824(2)</b>	<b>1174(2)</b>	<b>1110</b>	

(1) Based on 1961 estimated population

(2) Including 3 new hospitals totalling 38 beds built in 1949-50 at Middle Musquodoboit, Sheet Harbor and Musquodoboit Harbor.

(3) Key:

- P - Provincial referral center
- R - Regional referral center
- D - District hospital
- C - Community hospital

This table shows that the 1948 capacity for the Atlantic Region was 279 beds less than the minimum recommended number of 5 per thousand, and 295 less than the calculated requirements based on the bed-death ratio. The building of 3 cottage hospitals in the county during 1949 and the proposed addition of 100 beds to the Children's Hospital and of 250 beds to the Victoria General will bring the total to a level of 5.5 beds per thousand within approximately two years.

Some of the services at the Victoria General and Children's Hospitals are designed to care for patients with chronic or prolonged illnesses such as orthopedic conditions and cancer. Additional facilities for the care of other types of chronic disease are still required for the residents of this Hospital Region. These will be discussed in a later section. The estimate based on the bed-death ratio and maternity requirements would suggest that 5 beds per thousand would be almost sufficient. However, one must take into account the fact that these calculations were based on 1948 figures, and many of the physicians throughout the province state that referrals to the Victoria General Hospital were delayed too long at that time. It, therefore, appears to be a wise plan to exceed this basic requirement, by expanding the Victoria General Hospital to 634 beds. However, it should also be pointed out that the present facilities at the Victoria General Hospital would be more than adequate for the volume of cases referred from the province, if the City of Halifax and the County provided adequate general hospital facilities for the 65 per cent of patients from this area. Halifax supports no general hospital and the Provincial Government finance the Victoria General Hospital, which with the Halifax Infirmary, operated by the Sisters of Charity, provides the general hospital services for the area. However, the city provides a full-time Health Department and Tuberculosis Hospital, which are financed throughout the rest of the province by the Provincial Department of Health.

The allocation of the beds available in this region must receive some consideration, particularly those for Communicable Diseases and Obstetrics. Halifax City operates the Infectious Disease Hospital, an institution of 52 beds. There is no doubt that this hospital has been needed to full capacity and more during past epidemic periods when needs were much greater than at present. Since it was established, communicable diseases have been much reduced in incidence. It is usually calculated that 1 bed per 10,000 of population is sufficient number to provide for communicable diseases at the present time. This would indicate a need for about 14 beds for this purpose in the Halifax Metropolitan area. The present capacity is 52 beds. This would seem to be a serious waste of hospital facilities, although it is important that beds be available for infectious diseases especially during an epidemic. The modern method of dealing with acute communicable diseases is to provide an adequate isolation unit in the general hospital to take care of most such cases and to make arrangements for temporary expansion into an adjacent wing of the general hospital during a large epidemic by clearing out the other patients from this area.

Consideration might be given to the establishment of communicable disease units totalling 12 to 15 beds in the Victoria General Hospital and Halifax Infirmary and closing of the separate Hospital for Infectious Diseases.

This might result in an increased demand on the facilities since patients could also be referred to these hospitals from other counties, while the present Infectious Disease Hospital is limited to patients from the City of Halifax. Alternatively, since the Tuberculosis Hospital is also owned by the City of Halifax, and requires additional space, it might be possible to effect a union of these two institutions. This would be less desirable than provision for communicable diseases in a general hospital, since it would be more difficult to clear beds and to expand the Communicable Disease Section in the event of a major epidemic. Under any such system, the area of service of this hospital might well be expanded to include Halifax County, but even then approximately one-quarter of the present bed capacity should be adequate for communicable diseases except during occasional major epidemics.

A third possible solution, and one which has much to recommend it, would be the union of the Infectious Diseases Hospital with the Poliomyelitis Clinic. The latter unit at the Victoria General Hospital has almost no facilities for the segregation of patients until diagnosis is confirmed nor during the period of communicability of the poliomyelitis itself. This is a most undesirable and potentially dangerous situation. Facilities for poliomyelitis in its acute phase should be of the same type as for other communicable diseases. An efficient combined unit should be developed with one special section reserved solely for the Poliomyelitis Clinic and another for Communicable Diseases and an intermediate section into which either could expand as needed. The maximum use of such a unit for poliomyelitis would be during the late summer and autumn when other acute communicable diseases are at low level. Special facilities would be required for the treatment of poliomyelitis but these could readily be provided in the permanent section reserved for such cases. If the Hospital for Infectious Diseases is too small for this dual purpose, it is recommended that a combined unit of this type be provided at the Victoria General Hospital.

The hospital facilities for care of maternity cases also requires some further study. The obstetrical section at the Halifax Infirmary is considerably over-crowded. Five beds in screened-in cubicles in the main corridor are used for women in labor and six beds are in corridors in the main obstetrical section. Many of the other rooms are also over-crowded by one extra bed. This hospital provided for only 344 maternity patients in 1935 and 2157 in 1948, more than a six-fold increase. One floor was added



to the maternity section and there has been a reduction of the period of hospitalization. However, these have not been sufficient to compensate for this increase in number of patients. The Grace Maternity Hospital has also shown a great increase in patient-load. The only recent addition to the maternity services of the Region is in the three cottage hospitals built during 1949 in Middle Musquodoboit, Musquodoboit Harbor and Sheet Harbor. However, the present facilities are almost sufficient to meet the needs based on the provision of hospital facilities for all obstetrical patients for the Halifax Region, as shown in Table 13. Relief of the present crowding in the Infirmary and a small addition to the facilities of the Grace Maternity Hospital to add a total of 15 or 20 beds should meet the needs of this region. However, as already stated, more adequate facilities are also required in the labor and case-room sections to provide a modern type of service, and especially in the nurseries.

The Children's Hospital will exceed the calculated requirements by about 25 beds when the new addition is completed. However, this excess is justified since there will probably be increase in the referral of patients from other regions, and since some of the beds in this hospital are providing for the chronically ill, particularly orthopedic cases.

The allocation of additional general hospital beds between the Victoria General Hospital and the Halifax Infirmary is difficult to estimate. The proposed addition to the Victoria General Hospital will provide 162 more beds than the estimated requirements of this hospital based on the 1948 bed-death ratio. However, much of this additional section will be used for new services such as orthopedic surgery, neuro-surgery, etc. Some beds will be used for chronic diseases such as cancer. The total requirements for the two general hospitals based on the bed-death ratio is 825 beds, and with the addition to the Victoria General the two will have a combined capacity of 826 beds. Not all of these are for the acutely ill and there will be a need for some expansion of the facilities of the Halifax Infirmary. The excess of beds at the Victoria General above the calculated requirements will no doubt reduce the needs at the Infirmary below the estimate of 353 beds, but some years of adjustment will be necessary before a more accurate estimate can be made.

The question of obsolescence of existing facilities will be discussed in a later section.

#### Southern Region

The estimated requirements for this area are shown in Table 19.

TABLE 19

BED REQUIREMENTS IN THE SOUTHERN REGION

HOSPITALS	Required Bed Capacity based on			Present and Planned Capacity			Recommended Number in an Integrated Plan	Recommended Grouping (1)
	5 per 1000	6 per 1000	Maternity & E.D.R.	1948	1949-1950	Planned		
North Queens	10	12	8	6	6	6	8	C
Dawson Memorial	148	179	114	43	43	43	99	R
Lunenburg Queens General				-	56	56		D
				-	40	40		40
<b>TOTAL</b>	<b>158</b>	<b>191</b>	<b>122</b>	<b>49</b>	<b>145</b>	<b>145</b>	<b>147</b>	

- (1) Key: P - Provincial referral center  
 R - Regional Hospital  
 D - District Hospital  
 C - Community Hospital

The estimate based on bed-death ratio and maternity requirements would suggest that this area will be provided with more than enough hospital beds when the Lunenburg Hospital is completed. However, the percentage of births in hospital has been low in this region and will no doubt increase. Also the availability of hospital services in Queens County will almost certainly result in increased demand. There is little doubt that the 145 beds will be required within a few years.

How the hospitals in this region can be fitted into an integrated provincial program represents a serious problem. This is one of the areas which had undertaken hospital construction before the introduction of the Federal Hospital Construction grants. The result is two hospitals at Lunenburg and Bridgewater, located within 12 miles of each other, and both too small to support economically the specialist and technical services which could have been so excellently provided in one hospital of 100 beds. However, the distance between them is short, and it is to be hoped that a cooperative plan will be worked out to integrate the services of these two institutions before each becomes frozen into its own rigid system. There is an excellent opportunity here to provide one good laboratory at one of the hospitals and to have a trained technician serve both. The provision of a travel allowance would cost less than a separate laboratory, and better service would be given. The radiology

service could also be integrated. Some equipment would be necessary at each hospital, but one well-trained technician and one radiologist could serve both. It will require a subordination of local "patriotic" feeling to the general welfare, if a good high quality hospital service is to be developed here. The above table shows that the recommendation in an integrated plan would have been for one regional hospital at Bridgewater and none at Lunenburg. However, the latter hospital is well on its way to completion and the clock cannot be set back. It now remains to the two hospital boards to try to work out on a co-operative basis the provision of services which will be too expensive for either one to undertake alone. It is believed that this can be done but it will require a strong effort by the two hospitals to make it successful.

On the other hand, the Queens County Hospital at Liverpool fills a definite need in an area which was inadequately provided with hospital beds and was too distant from Bridgewater to depend wholly upon the hospital there. The cottage hospital at Caledonia also serves a useful function in providing emergency hospital service for the inland region north of Liverpool. It is approximately 30 miles from this town and in a relatively isolated area where transportation difficulties are a serious problem except in summer months. However, a new building is needed for this hospital, and a cooperative arrangement is needed by the three municipalities, which it serves, to have it supported financially under the terms of the "Act Relating to Local Hospital". At present it is the only cottage hospital that receives no per diem grant from the province.

The distance between the hospital at Bridgewater and those in Halifax is 68 miles, and Lunenburg about the same. There might be some argument for a small cottage hospital at Hubbards or Chester, but transportation facilities are good and its need is probably not too acute. It is, therefore, not recommended. The inland area of New Ross and vicinity might be more urgently in need of a cottage hospital, and any requests for assistance from this area should be given careful consideration.

#### Western Region

Table 20 shows the hospital facilities and estimated requirements of the Western Hospital Region, comprising Shelburne and Yarmouth and Digby Counties.

Western Nova Scotia has a serious deficiency in hospital facilities having only 2.0 beds per thousand. It should also be emphasized that Table 20 indicates only the number of beds needed in excess of the uncrowded capacity of buildings now in use. As indicated later, certain existing hospitals are obsolescent and require complete replacement. Yarmouth General Hospital is one of these. The shortage is, therefore, greater than this table suggests.

TABLE 20

BED REQUIREMENTS FOR WESTERN REGION

HOSPITAL	Required Bed Capacity based on			Present and Planned Capacity			Recommended Number in an Integrated Plan	Recommended Grouping (1)
	5 per 1000	6 per 1000	Maternity & B.D.R.	1948-	1949-	Planned 1950		
Roseway	59	70	58	40	40	40	48	D
Yarmouth	138	165	134	41	41	41	168	R
Digby	96	115	81	28	28	28	57	D
TOTAL	293	350	273	109	109	109	273	

(1) Key to symbols follows Table 18, page 45.

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The estimate based on the bed-death ratio and the maternity bed requirements is a little less than that based on providing 5 beds per thousand allocated according to the 1948 patient-distribution. However, the proportion of births and deaths in hospital have been low in this area and would probably increase if more beds were provided. It is, therefore, believed that 273 beds should be the minimum and it would be preferable to increase this to 293 placing most of the additional beds at Yarmouth, the regional hospital.

It should be pointed out that a large portion of the patient-population of Clare Municipality was hospitalized in Digby Hospital during 1948. It is believed that many of these would go to Yarmouth if hospital beds were available there, particularly from districts in Clare Municipality which are nearer to Yarmouth than to Digby. Seventy-five per cent of the additional bed requirement for Digby County has, therefore, been transferred from Digby Hospital to Yarmouth in estimating the capacity under an integrated plan. Under such a system Yarmouth would have the regional hospital, and Digby General would be a district hospital for Digby Municipality and a small part of Annapolis County. Roseway Hospital at Shelburne would also be a district hospital and a proportion of the beds required to serve this area should be at Yarmouth also.

The area between Liverpool and Shelburne can be adequately served by the two hospitals in these towns, but between Shelburne and Yarmouth, 76 miles, and between Digby and Yarmouth, 65 miles, there might be reasonable arguments for cottage hospitals. These might be located at Barrington Passage or Clarke's Harbour and at Meteghan or Church Point. However, these hospitals should, like other cottage

hospitals, be strictly limited to medical care, emergency surgery and normal obstetrics. The major expansion should be at Shelburne and Yarmouth. In fact, unless there is definite need for a hospital at these intermediate points because of transportation difficulties for persons in the inland areas, their construction should not be encouraged, because of the high costs and the fact that better service can be provided at the district or regional hospitals at Shelburne, Yarmouth and Digby and at a lower cost. It would be preferable to provide for transportation costs than to build cottage hospitals here unless the local conditions make for real hardship in getting to hospital. The only area which is sufficiently isolated in this region to warrant establishment of a cottage hospital is Digby Neck.

Fundy Region

Table 21 shows the various estimates of bed requirements for the Annapolis Valley.

TABLE 21

BED REQUIREMENTS FOR FUNDY REGION

HOSPITAL	Required Bed Capacity based on			Present and Planned Capacity			Recommended Number in an Integrated Plan	Recommended Grouping (1)
	5 per 1000	6 per 1000	Maternity & B.D.R.	1948	1949-1950	Planned		
Annapolis	28	34	23	14	14	14	14	C
Blanchard Fraser	84	100	72	44	44	44	100	R
Eastern Kings	42	50	38	28	28	28	28	D
Payzant	93	111	79	34	75	75	75	D
Soldiers' Memorial	56	67	47	23	23	62	62	D
Western Kings	53	64	45	20	20	36	36	D
	356	426	304	163	204	259	315	

(1) Key to symbols follows Table 18, page 45.

The Annapolis Valley has too many hospitals but is short of hospital beds. All existing institutions are relatively small. Distances are short and transportation routes are good. There is certainly no need for any additional hospitals in this area and better services could be built up if there were fewer. If any additional beds are provided in this region they should be placed at one, or perhaps two, of the hospitals that are in reasonably central locations. This would permit the development of at least one regional center which could support adequate technical and specialist services, which almost none of the present hospitals can now provide on an economic basis.

The proposed construction of a new 20 bed hospital at Bridgetown, Annapolis County, should not be approved for a Federal-Provincial Construction Grant, since it is only 15 miles from Annapolis and 14 miles from Middleton on a paved highway. As already stated, there are many reasons against the multiplication of small, inadequate hospitals in an area with no serious transportation problems, and there are many reasons in favor of developing a few larger institutions in this region.

Table 21 indicates how beds might be allocated on the basis of 1948 patient-distribution but it also recommends that the additional beds beyond those now approved should be located at two hospitals in Middleton and Kentville. These could then support specialist and technical services of a more adequate type, as could also Payzant Memorial. Middleton is suggested because of its central location and because a new hospital is being planned there. It is proposed that additional beds be added to it rather than the two adjacent hospitals of Annapolis and Berwick. Kentville is suggested because of the proximity to the Nova Scotia Sanatorium, which would make the common use of certain specialist and technical services more feasible than if the regional general hospital were in another town.

Cobequid Region

Table 22 shows the present facilities and estimated requirements for this region.

TABLE 22

BED REQUIREMENTS FOR COBEQUID REGION

HOSPITAL	Required Bed Capacity based on			Present and Planned Capacity			Recommend- ed Number in an Integrated Plan	Recommend- ed Grouping (1)
	5 per 1000	6 per 1000	Mater- nity & B.D.R.	1948	1949- 1950	Plan- ned		
Lillian Fraser	10	12	8	5	5	5	8	C
Colchester	172	208	140	52	108	108	150	R
TOTAL	182	220	148	57	113	113	158	

(1)Key to symbols follows Table 18, page 45



This region will have about 60 per cent of requirements, based on 5 beds per thousand, and 75 per cent of that based on the bed-death ratio, when the new addition to the Colchester County Hospital at Truro is completed. This was badly needed since overcrowding was very serious. It is probable that this hospital will require further expansion to 140 or 150 beds if the demand for hospital care is as great in this region as in others. The high proportion of births occurring in hospitals in this region, 81.8 per cent was shown in Table 11. The proportion of deaths in hospital is relatively low, 17.6 per cent, but the average period of hospital care per death is 364.9 days, which is relatively high. These features make it likely that the requirement will be higher than can be cared for in the structure now being built.

The only cottage hospital is located at Tatamagouche. It is one of the less satisfactory of such units, since it does not provide suitable nursery facilities, nor privacy of the sexes. It is also approximately 80 per cent over-crowded. However, relatively minor modifications would make it satisfactory.

There are no other areas that are seriously in need of cottage hospital facilities in this region. Distances might almost justify one at Bass River or Great Village, but the transportation facilities are excellent and additional beds at Truro would be of more potential value than a cottage hospital in either of these villages.

Cumberland Region

Table 23 shows the estimated requirements of this region.

TABLE 23

BED REQUIREMENTS FOR CUMBERLAND REGION

HOSPITAL	Required Bed Capacity based on		Present and Planned Capacity	1948	1949-1950	Planned	Recommended Number in an Integrated Plan	Recommended Grouping (1)
	5 per 1000	6 per 1000						
Bayview	7	8	7	8	11	11	11	C
North Cumberland	11	13	11	10	10	10	10	C
South Cumberland	11	14	11	9	9	9	9	C
All Saints	91	109	95	43	43	43	95	D & R
Highland View	85	102	89	52	52	52	90	D & R
<b>TOTAL</b>	<b>205</b>	<b>246</b>	<b>213</b>	<b>122</b>	<b>125</b>	<b>125</b>	<b>215</b>	

(1) Key to symbols follows Table 18, page 45

This county has about 65 per cent of the beds required to reach 5 per thousand. However, the hospital at Springhill is obsolescent and requires complete replacement. The outlying areas at Fugwash, Advocate and Ferrsboro are well-provided with cottage hospitals. It is recommended that new beds should be located at Amherst and Springhill as indicated in Table 23. It would be difficult to centralize the hospital services of the whole area at one large hospital either in Springhill or Amherst because of distance from the extreme limits of the region. Although the two hospitals are only 16 miles apart, the population is sufficiently large to require two hospitals of almost 100 beds each, both of which could support adequate services. An optional procedure which would depend a great deal upon co-operation of the two hospitals, would be to have a regional hospital of 150 beds in one town and a 50 bed district hospital in the other. This would be preferable, but would be more difficult to achieve than two moderately large hospitals.

Pictou Region

Table 24 shows the estimated requirement of the general hospitals in this area.

TABLE 24

BED REQUIREMENTS FOR PICTOU REGION

HOSPITAL	Required Bed Capacity based on			Present and Planned Capacity			Recommended Number in an Integrated Plan	Recommended Grouping (1)
	5 per 1000	6 per 1000	Mater-nity & E.D.R.	1948	1949- 1950	Plan ned		
Suther-land	36	44	38	32	32	32	32	D
Aberdeen	166	199	177	114	212	212	177	R
TOTAL	202	243	215	146	244	244	209	

(1) Key to symbols follows Table 18, page 45

A Federal-Provincial grant has been approved for construction of a 212 bed hospital at New Glasgow, provided satisfactory financial arrangements can be worked out with the towns of Stellarton, Trenton and Westville. It is hoped that such a co-operative financial effort will be undertaken. The present hospital is most inadequate and the building is obsolescent. One large hospital would serve the area more economically than several smaller units in different towns. In fact,



it is recommended that separate small hospitals should not be approved for Federal-Provincial construction grants, since they would not fit in with the provincial program. It would be a great misfortune if a hospital which is so seriously in need of replacement with a larger and modern institution should fail to obtain the Federal-Provincial Grants. A new hospital will become an absolute necessity in a few years, but the grants were guaranteed for only five years from the time of their announcement in 1948.

If and when construction is finished on the new hospital at New Glasgow, this region will be well-provided with hospital beds, having approximately 6 per thousand. The calculation based on maternity bed requirements and on the bed-death ratio suggest that 177 beds would be sufficient at New Glasgow. Table 11 showed that 93.5 per cent of all births in this area already occur in hospital, and the bed-death ratio of this region during the 5 years 1944 to 1948, inclusive, has been the most stable of the province. Unless some major change occurs in hospitalization trends, it would appear that the 212 bed hospital at New Glasgow should also have room for a small unit to treat chronically ill patients. There are no requirements for cottage hospitals in this area.

Eastern Region

Table 25 shows the estimated bed requirements of general hospitals in this area.

TABLE 25

BED REQUIREMENTS FOR EASTERN REGION

HOSPITAL	Required Bed Capacity based on			Present and Planned Capacity			Recommend- ed Number in an Integrated Plan	Recommend- ed Grouping (1)
	5 per 1000	6 per 1000	Mater- nity & B.D.R.	1948	1949- 1950	Plan- ned		
Eastern Memorial	6	7	9	10	10	10	9	C
Guysboro	8	9	13	9	15	15	13	C
St. Martha's	121	145	186	109	218	218	186	R
Sher- brooke	-	-	-	-	13	13	13	C
<b>TOTAL</b>	<b>135</b>	<b>161</b>	<b>208</b>	<b>128</b>	<b>256</b>	<b>256</b>	<b>221</b>	

(1) Key follows Table 18, page 45.

This region has three cottage hospitals at Canso, Guysboro and Sherbrooke, and St. Martha's Hospital is the regional center to which major cases are referred. The region now has the highest

proportion of beds per thousand in the province, and will have 9 beds per thousand with completion of the addition at St. Martha's. Eighty-six per cent of births occur in hospital, and the bed-death ratio has been very stable for five years, and higher than any region except Halifax. This may be due to a relatively higher proportion of long-staying chronic patients than other hospitals have had.

It would appear that St. Martha's Hospital should have considerable space for chronic patients with completion of the new sections, and it would be preferable if these were in a separate wing or section of the building from the acutely ill patients. This hospital is well-organized and equipped to serve as a regional center having the most complete technical and specialist staff of any hospital in the province outside Halifax. Provision is being made for doctors' offices in the hospital. There is an adequate radiological and laboratory service with a full-time pathologist-radiologist, and the general organization and administration conforms closely to the best modern standards.

There is one relatively isolated area of the Atlantic shore of Guysboro County, near Seal Harbor or New Harbor, where there might be a need for a small cottage hospital. This district is relatively isolated and there are some difficulties in transporting patients to hospital in Sherbrooke, Antigonish or Canso. At present there is no doctor located in this area, and a small community health center might attract one.

#### Cape Breton Region

Table 26 shows the present facilities and recommended general hospital bed arrangements of Cape Breton Island. It will have 84 per cent of the requirements based on 5 beds per thousand, when present construction is completed. However, three other large hospitals are contemplating replacement or additions - St. Rita's in Sydney, New Waterford General and Hamilton General in North Sydney. These hospitals all need replacement on the basis of obsolescence, but whether they need as many beds as are now being proposed requires further careful consideration. It was suggested to the Survey Director that each hospital contemplated replacement with a building of 125 to 150 beds. These would provide 6.4 beds per thousand in the Cape Breton Region. The calculations based on the bed-death ratio and maternity bed requirements suggests that 5 beds per thousand should be sufficient. If chronic illnesses are to be treated, the larger number of beds may be justified, but if so it would seem preferable to plan some institutions or separate wings specifically for the care of chronically ill, and not provide quite so many general hospital beds.

TABLE 26

BED REQUIREMENTS FOR CAPE BRETON REGION

HOSPITAL	Required Bed Capacity based on			Present and Planned Capacity			Recommended Number in an Integrated Plan	Recommended Grouping (1)
	5 per 1000	6 per 1000	Maternity & B.D.R.	1948	1949-1950	Planned		
Buchanan Memorial	22	27	22	9	9	9	22	C
Isle Madame	31	37	31	14	14	14	31	C
Harbour View	77	92	77	39	39	39	(135) (1)	D
Inverness	31	39	31	30	30	30	30	D
New Waterford	93	112	93	38	38	150	100	D
Sacred Heart St.	34	41	34	31	31	31	31	D
Mary's	33	39	33	23	23	23	33	D
Hamilton Memorial St.	58	68	58	50	50	150	(135) (1)	D
St. Joseph's	138	165	139	98	98	98	140	R
St. Rita's	94	113	94	55	55	125	100	D
Glace Bay	132	158	133	115	115	115	133	D
Sydney City	116	139	116	117	192	192	141	R
Baddeck	-	-	-	-	34	34	34	D
TOTAL	859	1030	861	619	728	1010	930	

(1) 135 beds either at Sydney Mines or North Sydney, with eventually none at the other.

(2) Key to symbols follows Table 18, page 45.

The calculated requirement is for 135 beds in North Sydney and Sydney Mines combined. Hamilton Memorial Hospital alone is planning a new building of 150 beds, or more. This should be sufficient to serve the whole area since it will be conveniently located between the two towns which are only 3 or 4 miles apart. Yet there was a suggestion that Harbour View Hospital at Sydney Mines was also contemplating expansion. Obviously there is need for co-operative planning in this area. According to past experience 77 beds are needed at Harbor View and 58 at Hamilton Memorial. In an integrated hospital plan it is recommended that one hospital of 135 beds replace these two institutions. Whether it is at Sydney Mines or North Sydney is immaterial, but it is important that there be only one for reasons already noted. The authorities of Hamilton Memorial Hospital have made most progress with their plans, but it would be preferable if they could bring the Sydney Mines authorities into the picture at an early stage to make the new hospital a really co-operative effort.

In Sydney the calculated requirement is for 210 general hospital beds, 116 in Sydney City Hospital and 94 in St. Rita's. Sydney City Hospital has already planned an addition which with the old building will increase the capacity to 192 beds, not including the present tuberculosis annex nor the temporary building housing the maternity and chronic services. These facilities alone will almost meet the requirements for Sydney City even when calculated on the estimated 1961 population. It seems difficult to justify the construction of this large a hospital and the proposed 125 bed replacement of St. Rita's. Either one or both should be reduced in size or responsibility be divided so that one would provide general services for the acutely ill and the other for the chronically ill. However, there is need in Sydney for a good hospital center to provide modern medical care and rehabilitation services for patients with arthritis, and other forms of chronic disease. It would be more economical to have only one such center for the Sydney area which would then have a sufficient patient-load to support a well-trained staff of specialists and technical experts. Possibly a fair division of responsibility for the care of both acute and chronic patients can be effected between these two institutions before plans are finalized. Otherwise the city will have too many general hospital beds and too few for chronics, or at least no special facilities for the latter.

It must be frankly recognized that there has been a division of hospital services in this city on a religious basis, and it is probable that there will be a continued demand for the two general hospitals. Since both hospitals will be of adequate size to support full technical and specialist services this will be quite satisfactory. However, it would be definitely contrary to sound planning to have two chronic disease units in the Sydney

Hospitals and two more in Glace Bay. Each would be too small to provide good modern services. It will, therefore, be recommended that only two units for chronically ill be organized by the major religious groups to provide for the whole of Cape Breton County. One possible method would be to use only the new building of 141 beds at Sydney City for the acutely ill. This should be more than ample, providing over 6 beds per 1000. The old building and the connecting Tuberculosis Annex could then be used as a Hospital for Chronics, with a capacity of 111 beds. This should serve the whole Cape Breton Region together with a similar Catholic unit at St. Joseph's Hospital in Glace Bay or at St. Rita's. The other hospitals in the area could then refer their chronically ill patients to these two units.

As now planned, the two hospitals at Sydney will have more than enough space for acutely ill patients and they will probably admit a proportion of chronic cases. These would be better cared for in a separate wing or section of each institution, and a reasonably large unit is necessary to provide complete services on an economic basis. It is, therefore, recommended that Sydney City Hospital have 141 beds for active treatment, that St. Rita's have 100 such beds, that the former have also a chronic disease unit of 111 beds serving the whole of Cape Breton County, and that either St. Rita's or St. Joseph's Hospital in Glace Bay have a second chronic disease unit of at least 70 beds.

The requirements at Glace Bay are for 272 general hospital beds and there are now 213. Both hospitals are reasonably large and well-staffed. A moderate addition to each would provide an adequate number of general hospital beds for this district based on present demand. If adequate facilities are provided for the care of chronically ill patients now treated in general hospitals, additions to the present general hospitals need not be so large. In both hospitals the release of the Tuberculosis Unit would provide a worthwhile addition, when these units are no longer required for their present purpose. The St. Joseph's Unit might serve as the nucleus for a Hospital for Chronics, but it would not be sufficient for the whole region.

The hospital at New Waterford is obsolescent and plans were made some years ago for a new one, but these have been postponed. Approximately 100 beds should be adequate for the care of the acutely ill in this town.

Cottage hospitals at Arichat and Neil's Harbour fill definite needs in these districts, and past experience would suggest the desirability of considerable expansion in both. The hospital at Baddeck is a new one, and it will reduce the bed requirements both at Inverness and Sydney Mines or North Sydney, but no estimate can be made of the extent of the reduction until it has been in operation for a time.

Sacred Heart Hospital at Cheticamp is one of the finest small hospitals in the province, and it is adequate to give service to the northern portion of Inverness County. The southern portion is served by two hospitals in Inverness. There is need of a little expansion to meet the local demands, and one institution for the area would be preferable. However, this is not a practicable suggestion at present. St. Mary's Hospital is in need of considerable repair and improvement. If the present tuberculosis annex of 10 beds were used for general hospital cases, its requirements for more beds would be fairly well met.

There has been a proposal to build a cottage hospital at Louisburg, which is 23 miles from Sydney. It is doubted whether transportation difficulties would warrant an addition to the number of hospitals in this area. There might be a better argument for such a hospital at or near Port Hawkesbury, but it is on the main highway and railway and in spite of distance is not sufficiently isolated to have any great need in this regard. Construction of the proposed bridge across the Strait of Canso would also make it simpler to refer patients to St. Martha's Hospital in Antigonish.

(f) Obsolescent Hospitals

It must be emphasized that the preceding tables indicated the need for additional hospital beds and compared these requirements with the capacity of existing hospitals without regard to the condition of the latter. Consideration must also be given to the replacement of obsolescent buildings. Obsolescence of a hospital is difficult to determine with precision. There are no definite rules to follow. The Survey Director might "pass" certain hospitals which would be severely criticized by one more expert. However, it is his opinion that the following hospitals should be considered obsolescent, and their replacement by new structures added to the needs.

TABLE 27

OBSOLESCENT HOSPITAL BUILDINGS

<u>HOSPITAL AND LOCATION</u>	<u>CAPACITY</u>	<u>COMPLEMENT</u>
All Saints, Springhill	43	50
Buchanan Memorial, Neil's Harbor	9	11
New Waterford General, New Waterford	38	66
North Queens, Caledonia	6	9
St. Rita, Sydney	55	75
Soldier's Memorial, Middleton	23	27
Yarmouth General, Yarmouth	41	66
	<u>215</u>	<u>304</u>



These are all very old buildings which must be extremely uneconomical to operate and keep in repair. They are noisy and otherwise unsatisfactory from the patients' viewpoint and they all have very dangerous fire hazards.

A number of other hospitals are also seriously in need of modernization of part or all of their buildings, and replacement might in some instances prove the more economical procedure. (Table 28)

TABLE 28  
HOSPITALS REQUIRING MODERNIZATION

HOSPITAL	LOCATION	CAPACITY	COMPLEMENTS
Children's Hospital	Halifax (Old Wing)	48	54
Western Kings	Berwick	20	24
Hamilton Memorial	North Sydney	50	60
Harbour View	Sydney Mines	39	45
Lillian Fraser Memorial	Tatamagouche	5	9
Paysant Memorial (existing wing)	Windsor	34	44
St. Mary's	Inverness	23	30
Sydney City	Sydney (old building)	55	62
		274	328

New wings are to be added to the Children's Hospital and Paysant Memorial, but little or no modernization of the existing buildings is planned, although they are in serious need of improvement. Sydney City Hospital is planning to construct a new building, but the old one will probably be used as well either for acute or chronic cases. It is in need of considerable modernization and improvement of fire safety. Western Kings Hospital is planning some extension of services within the present building to add more patients' rooms. The kitchen and other household facilities are among the poorest seen in any hospital in the province and should be improved before new patient rooms are added. The cottage hospital at Tatamagouche is a house which has never been modified to provide hospital services or privacy for patients. Hamilton Memorial Hospital has been kept in very good state of repair and cleanliness, but is overcrowded and has considerable fire risk. Harbour View Hospital at Sydney Mines, St. Mary's at Inverness and Dawson Memorial at Bridgewater are also in need of renovation and decoration.

At present the terms of the Federal grant allow for financial assistance only for the construction of new hospitals or additions to existing buildings. It is recommended that the terms of the Hospital Construction Grant be modified to allow Federal and Provincial assistance for the modernization of existing hospitals. Some are in serious need of improvement without necessarily increasing in size. They could then provide better services and more safety from fire hazards.

(g) Organization, Services and Personnel

Appendix E contains an extensive tabulation of data on the general and special hospitals of Nova Scotia. Information is presented on ownership, administration, financing, type of building, classification of beds, number of staff members, training facilities, x-ray and clinical laboratory services, volume of patient-load and other features. The following tabulation summarizes the more important aspects of these data. Brief comments are made on each section;

TABLE 29

SUMMARY DATA ON HOSPITALS IN NOVA SCOTIA, 1948

1. Types of Hospitals

General only	30
General with tuberculosis unit	6
Maternity only	3
Tuberculosis with a general unit	1
Pediatrics	1
Infectious	1
Industrial	1
Tuberculosis only	3
Mental	1
	<u>47</u>

In addition there are ten small licensed maternity homes with a total capacity of 31 beds, and the eighteen municipal homes or hospitals, totalling 2036 beds, are largely occupied by mildly insane who are retained in custodial care with little active psychiatric treatment.



2. Ownership, Administration and Operation

Province	-	Tuberculosis	3	
		Mental	1	
		General	2	including a general unit in 1 tuberculosis hospital
			<u>6</u>	
Municipality		General	7	
Town or City		Tuberculosis	1	
		Infectious	<u>1</u>	
			<u>9</u>	
Religious		General	9	
		Maternity	<u>3</u>	
			<u>12</u>	
Lay Voluntary		General	19	
Organizations		Pediatric	<u>1</u>	
			<u>20</u>	
Industrial		Industrial	1	
Company				

The general and tuberculosis hospitals at Shelburne are listed separately in this section; hence the disparity in the total as compared with that in the preceding section.

The following data are on the general and special hospitals exclusive of those for tuberculosis and mental diseases.

3. Organization Responsible for Finances.

Voluntary Hospital Association	12
Provincial Government	2
Industrial Association	3
Operated by Municipal Government	1
Guaranteed by Municipality	7
Guaranteed by Red Cross	8
Guaranteed by Religious Body	<u>10</u>

4. Membership of Hospital Boards:

Provincial Government	23
Municipal Government	74
Religious Bodies	35
Medical Groups	8
Lay organizations	243
Others	<u>35</u>
Total	<u>418</u>

5. Approved by American College of Surgeons

Full Approval	12
Conditional Approval	6
Not Approved	25

6. Proposed Regional Grading

Base Hospital, General	1
Base Hospital, Special	2
Regional	9
District	18
Local	13

7. Construction

Brick	16
Frame	21
Brick and Frame	5
Brick and Stucco	1

8. Fire Resistance

Fire resistant construction	11
Moderately resistant with sprinkler	14
Doubtful	7
Poor	15

These represent an evaluation of the fire resistance of the chief building or wing of the hospital. In some instances older wings would be lower in rating. The evaluation was made by the Survey Director after personal inspection and examination of the Provincial Fire Marshall's reports. It is believed that the above figures do not over-state the fire hazard of the hospitals of this province, and they represent a great potential hazard to life.

9. Isolation and Segregation of Patients

Isolation unit	10
No Isolation Unit	33
Segregation of obstetrical patients	24
Segregation of surgical patients	5
Segregation of medical patients	4
No segregation	17

Partial segregation of surgical patients from medical is practised in a considerable number of hospitals in addition to those noted above.

10. Patient-Beds

(a) Rated Bed Capacity	<u>Gen.</u>	<u>T.B.</u>	<u>Total</u>
Private	546	28	574
Semi-Private	554	50	604
Standard	<u>1096</u>	<u>124</u>	<u>1220</u>
Total, Adults, Children	2196 (1)	202	2398
Adult	1967	202	2169
Children	229		229
Bassinets			374
(b) Bed Complement (Set-up on Dec. 31, 1948)			
Private	558	28	586
Semi-Private	644	50	694
Standard	<u>1429</u>	<u>124</u>	<u>1553</u>
Total	2631 (1)	202	2833

(c) Type of Beds

Active treatment	2505
Chronic	26
Communicable	67
Tuberculosis (units in general hospitals)	202
Other	<u>33</u>
Total	2833

These features have received comment in other sections of the report.

11. Capacity and Complement of Nurses' Quarters

Rated bed capacity	999
Bed complement	1148
Graduate	275
Student	583
Assistant	29

The crowding of nurses' quarters is serious and is the major factor limiting the training of a larger number of student nurses. The total number of nurses is 1380. There is, then, a definite need for more facilities if all nurses are to be housed in residence, and in any event there is a need for more quarters for student nurses.

(1) These totals include two obstetrical units in Homes for Unmarried Mothers and the Industrial Hospital at Dominion Steel and Coal Company, Sydney. These were not included in earlier tables such as Table 4-b, Table 7. Hence the difference in totals.

12. Staff, Full-time

Administrative staff	179
Salaried medical	17
Internes and residents	60
Professional, non-medical	10
Nurses	
Supervisory	149
Teaching	25
Other graduates	320
Student	803
Assistant	64
Other	<u>19</u>
Total nurses	1380
Medical Social Workers	1
Qualified Dietitians	12
Student or unqualified Dietitians	15
Radiological therapists	4
Physiotherapist	1
Occupational therapist	0
Laboratory Technicians	
Registered	12
Not registered	19
Radiological Technicians	
Registered	16
Not registered	30
Registered record librarian	18
Household and maintenance staff	1032

There are several obvious deficiencies in staff. A survey in 1948 resulted in an estimate that an additional 98 graduate nurses were needed. However, it is possible that some of these might be replaced by nursing aides. There is an average of one nurse for two patient beds, including student and assistants (nursing aides).

There are notable deficiencies in the numbers of trained dietitians, medical social workers, therapists and laboratory and x-ray technicians.

13. Training Facilities

Approved by C.M.A. for interne training	4
Approved by Royal College of Physicians and Surgeons for residency	3
Approved School of Nursing	13
Non-approved School of Nursing	1
Nursing Students in training in 1948	700
Potential total enrollment	869
Number of graduates in 1948	233

The report on the survey of nursing will elaborate on the defects in this field and recommend solutions.

14. Hospital Facilities and Services

(a) Clinical Services Available

General Medicine	39	Neurology	1
General Surgery	30	Neuropsychiatry	1
Obstetrics	38	Neurosurgery	1
Allergy	1	Ophthalmology	15
Anaesthesia	28	Otolaryngology	17
Cancer	1	Orthopedics	2
Communicable Diseases	6	Pediatrics	5
Dermatology	1	Urology	22
Geriatrics	1	Venereology	19
Gynecology	27		

(b) Adjunct Services

B.M.R.	28	Inducto-therm	6
E.C.G.	21	Massage	4
E.E.G.	2	Occupational Therapy	2
Hydrotherapy	3	Oxygen Therapy	37
Ultra-violet	6	Blood Bank (Red Cross)	42
Infra-red	3	Hospital Blood Bank	1

(c) Laboratory Service

Minor routine procedures only	15
Blood chemistry, other biochemistry	10
Bacteriology	4
Tissue pathology	3

(d) Radiology

X-ray machine in hospital	29
Fluoroscope	25
Radium therapy	1
Deep x-ray therapy	2

This section on clinical services is only an approximation. Few hospitals have organized departments for the services listed. Some treat only an occasional patient in certain classes. Most hospitals, for example, do not have a qualified specialist in anaesthesia. However, the service is provided and is so listed in this table.

The adjunct services are not notably deficient insofar as equipment is concerned, but the trained personnel to make adequate use of the equipment is frequently absent. Laboratory services are in general very poor. There are only a few hospital laboratories in the province that have a fully qualified technician and still fewer that have competent professional supervision. Yet costs of this service are high to the patient, and in some instances laboratory fees exceed the costs of providing the service and bring a profit to the hospital. This service needs a thorough investigation by a competent laboratory specialist. This should be arranged at an early date by a Director of the Hospital Division, if such an appointment is made. Adequate hospital laboratories should be available at least in each regional hospital. There should be professional supervision of the technicians in these laboratories by the director of the regional laboratories of the Department of Health, or by other qualified professional personnel. In addition, the senior technician of each Regional Hospital Laboratory should be responsible for checking on the techniques, reagents, equipment, etc. in the smaller district and local hospitals of the region.

The radiological services require similar integration. Technical work in the smaller hospitals should be under periodic supervision by a senior qualified technician in the Regional Hospital and occasionally also by the radiologist of that institution. Each regional hospital should have a full-time radiologist, who would assist the district hospitals in the interpretation of films. Smaller district hospitals which are in close proximity might also have better technical services if they cooperated to engage one certified technician for the two institutions rather than trying to train one individual to do both x-ray and laboratory work.

15. Volume of Service in General Hospitals, excluding Tuberculosis Units

Admissions in 1948, Adult and child	79,094
Newborn	14,075
Under care in 1948, Adult and child	81,608
Newborn	14,075
Discharges in 1948, Adult and child	77,453
Patient-days	Total including newborn 809,779

A further breakdown of the data on adults and children show the volume of patient load in hospitals of various sizes.

		Hospital Bed Capacity				Total
		Under-20	20-49	50-99	100 and over	
Number of Hospitals		10	16	7	6	39
Admissions	No.	3,025	23,547	21,604	30,918	79,094
	Percent	3.8	29.8	27.3	39.1	100.0
Under Care	No.	3,091	24,055	22,114	32,348	81,608
	Percent	3.8	29.5	27.1	39.6	100.0
Discharges	No.	2,804	22,970	20,996	30,683	77,453
	Percent	3.6	29.7	27.1	39.6	100.0
Patient-days	No.	23,278	197,530	201,358	387,613	809,779
	Percent	2.9	24.4	24.9	47.8	100.0

It will be noted that almost half of the hospital service measured in patient-days is provided by six hospitals of 100 or more beds, and almost three-quarters by the thirteen hospitals of 50 or more beds.

(h) Hospital Finances:

An effort was made during the hospital survey to obtain accurate data concerning the costs of operating the hospitals of Nova Scotia, the relative costs of various services, the capital invested in these institutions and the major sources of income. It was found that the data were incomplete and were not comparable from one hospital to another, largely because of differences in the accounting systems. Depreciation, interest on capital loans, costs of contributed services and other items were included in statements of expenditure by some institutions but not by others. Methods of classifying expenditures for various services also differed.

An attempt has been made in recent years by the Maritime Hospital Association to introduce a standard system of accounting in all hospitals. This effort is achieving some success, and several hospitals were in process of changing to the new method of accounting during the survey. However, others have made no effort to modify their system, and a few accountants expressed unwillingness to make the proposed changes.

Until a standard system of accounting is introduced, the costs

of various services or departments and even accurate total costs cannot be calculated, nor trustworthy estimates made of future requirements. It is recommended that a standard system of accounting be one of the basic requirements in a hospital grading system.

Annual reports to the Provincial Department of Health show the total expenditures made by public hospitals. These data are subject to errors discussed above, and direct comparisons should not be made between individual hospitals. However, each institution has retained much the same accounting system from year to year, and the trends in total expenditures during recent years can be compared.

Table 30 shows how the costs of hospital care have increased since 1935 (1). These figures are for the twenty-three general hospitals which have been operating since or before 1935, and have submitted annual reports of expenditures during that period. The figures do not, therefore, represent the total expenditures for general hospital care in the province. These will be shown in a later section. As already stated, six of these general hospitals have tuberculosis units of 10 to 50 beds. The costs per patient-day in these annexes are estimated to be lower than for the general hospital sections. However, no exact figures are available, since the accounts are not separated. In table 30 the data on hospitals with tuberculosis units are, therefore, grouped together. Their costs per bed, per patient or per patient-day, represent an average for the general and tuberculosis sections. The costs for the general hospitals without tuberculosis units are somewhat higher and give a more accurate picture of the trends in the operating expenses of general hospitals.

- (1) Data on the Red Cross Hospitals, Blanchard-Fraser, All Saint's, Grace Maternity, Childrens' Hospital and Halifax Infirmary are not included.



TABLE 30

ANNUAL (1) EXPENDITURES OF TWENTY-THREE GENERAL HOSPITALS  
IN NOVA SCOTIA, 1935 to 1949.

	Hospitals with or without Tb. Units	1935	1940	1945	1948	1949
Bed Complement	With	316	701	835	836	836
	Without	1,207	990	1,178	1,290	1,290
Patients per Year(2)	With	4,437	16,031	16,038	18,177	17,949
	Without	27,369	27,170	37,621	39,690	42,963
Total Patient- Days(3)	With	83,386	197,662	224,502	251,062	235,872
	Without	301,940	257,659	341,264	349,512	370,034
Total ex- penditures in dollars	With	153,880	547,466	899,178	1,391,605	1,430,173
	Without	806,124	821,384	1,486,378	2,355,321	2,837,490
Average cost per bed	With	486.96	780.98	1,076.86	1,664.60	1,710.73
	Without	667.87	829.68	1,261.78	1,825.83	2,199.60
Average cost per patient	With	34.68	34.15	56.07	76.56	79.68
	Without	29.45	30.23	39.51	59.34	66.04
Average cost per patient- day, ex- cluding infants	With	1.85	2.77	4.01	5.54	6.06
	Without	2.67	3.19	4.36	6.73	7.67

- (1) Based on the fiscal year December 1 to November 30.
- (2) Excluding newborn infants.
- (3) Excluding days of care for newborn infants, estimated at 7 days each.

These figures indicate clearly the tremendous increase in operating expenditures since 1935. Costs per patient-day in general hospitals have risen from \$2.67 to \$7.67, an increase of 187.2 per cent, or almost three times the 1935 unit costs. In the hospitals with tuberculosis and general sections the increase from \$1.85 to \$6.06 was 227 per cent.

Another feature which must be obvious from such figures is the great need for economic operation of hospitals. The range in costs between hospitals in 1949 was from \$4.11 to \$9.99 per patient-day. Some of this may have been due to variations in accounting, but most of it was probably a result of actual differences in costs per patient-day. No doubt some of the difference was also justifiable, representing better services rendered. However, within the hospitals of 20 to 49 beds, which all provide similar services, the range was from \$4.11 to \$9.21 per patient-day. There is a need for a well-qualified hospital advisor, who can assist the Boards of Management in reviewing the system of operation, purchasing, etc. in order to improve efficiency and services and at the same time reduce costs. It is recommended that such an individual should be appointed as Director of the Hospital Division of the Provincial Department of Health, and should be loaned to the Board of Management of any hospital desiring his services. It is not considered desirable or necessary that he should have any authority to order changes made in the operation of the individual hospital. No such governmental control is envisaged, simply an advisory service. Acceptance or rejection of recommendations would be the responsibility of the Hospital Board, as at present. However, such expert services should be available on request and it is believed that they would be used to good advantage.

One other feature of hospital finance merits further comment. Emphasis has already been placed upon the relative inefficiency of small hospital units. Some of these cottage hospitals are necessary in certain parts of Nova Scotia, but their higher cost for an incomplete type of service, make it desirable to limit their numbers as much as possible in areas which are not isolated. Table 31 shows the unit costs for hospitals of various sizes. Again the hospitals with tuberculosis units are separated.

It is clear that the costs per patient-day in hospitals of less than 20 beds have been as high as or higher than the costs in hospitals of 20 to 49 beds or of 50 to 99 beds. Occasionally they have even equalled or exceeded the unit costs of the hospitals of 100 or more beds. Data are available on the Red Cross Hospitals for 1949 only. In that year the cost per patient-day in all hospitals of less than 20 beds was \$8.56 as compared with \$8.64 for hospitals of 100 beds and over, and only \$6.68 and \$6.97 for hospitals of intermediate size. It will also be noted that the larger hospitals had a higher average cost per bed, but they also had a higher per cent occupancy which made for greater economy per patient-day.

TABLE 31

ANNUAL EXPENDITURES OF TWENTY-THREE GENERAL HOSPITALS

CLASSIFIED BY BED CAPACITY

Year	Hospitals Grouped By Bed Capacity of General Units	Average cost per bed		Average cost per patient		Average cost per patient-day excluding newborn	
		Hospitals With Tb. Units	Hospitals Without Tb. Units	Hospitals With Tb. Units	Hospitals Without Tb. Units	Hospitals With Tb. Units	Hospitals Without Tb. Units
1935	Under 20	-	-	-	-	-	-
	20-49	564.23	560.11	33.66	26.42	2.12	2.60
	50-99	-	597.31	-	28.12	-	2.64
	100 and over	476.72	819.08	34.13	32.68	1.81	2.81
1940	Under 20	-	408.72	-	20.99	-	2.12
	20-49	570.68	671.80	35.82	25.92	2.76	3.03
	50-99	694.48	863.90	24.36	22.00	2.45	3.18
	100 and over	851.82	1044.02	41.74	41.70	2.95	3.38
1945	Under 20	-	924.44	-	38.10	-	4.76
	20-49	720.79	1110.18	36.40	29.68	3.23	4.02
	50-99	1074.57	1348.50	45.42	38.14	3.81	4.26
	100 and over	1103.72	1399.58	64.20	56.39	4.15	4.73
1948	Under 20	-	1186.66	-	37.96	-	6.94
	20-49	1302.27	1659.39	45.85	45.44	4.78	6.27
	50-99	1623.59	1810.79	65.72	44.73	5.35	6.34
	100 and over	1709.14	1996.58	85.71	89.80	5.68	7.28
1949	Under 20	-	1150.30	-	35.71	-	6.71
	20-49	1429.81	1761.45	53.65	45.14	5.72	(1)(8.56) 6.68
	50-99	1645.25	1959.42	65.45	46.18	6.10	6.97
	100 and over	1760.24	2701.19	90.43	107.78	6.07	8.64

(1) In 1949 data became available for 8 Red Cross cottage hospitals in addition to those included in previous years. This average is included in brackets.

The Act Relating to Local Hospitals sets forth the provisions under which a hospital becomes eligible for financial support from the Provincial Government. The hospital must be recognized by the municipality or town and receive a grant of not less than five hundred dollars per year. On fulfilling certain other relatively simple requirements, the hospital then becomes eligible to receive a "per diem" grant from the Province. Until December 1, 1948, this grant was at the rate of 30 cents a day for the first 5000 patient-days and 20 cents for each additional day. This grant was for private as well as public patients and for new-born infants as well as adults and children. Since December 1, 1948, these rates have been fifty per cent higher, 45 cents for the first 5000 days and 30 cents thereafter. In addition the Provincial Government paid three dollars per day for each patient in the six tuberculosis units of general hospitals in 1948. This rate had been \$2.20 per patient-day until December 1, 1946, when it was increased to \$3.00. It was again increased to \$3.25 per day in 1949.

Some additional support of the general hospitals comes from governments of towns and municipalities. The amount varies widely. As already indicated in Table 29, some of the hospitals are operated by a branch of the local government. Others have their annual operating deficit guaranteed by the town or municipality. However, others receive only the minimum grant of five hundred dollars required to qualify them as "public hospitals", and the grant has not been increased during recent years, although costs have almost tripled.

Provision is also made for the care of indigent patients at the expense of the municipality in which they have legal settlement. This was at a rate of three dollars per day until December, 1949, when it was increased to four dollars. Indigent patients who are not legally recognized as having settlement in any municipality are paid for by the Province at the same rate.

Table 32 shows the proportion of total costs borne by the provincial grants to the 23 hospitals which have received such grants since 1935.

TABLE 32

PROVINCIAL GRANTS TO TWENTY-THREE GENERAL HOSPITALS

Year	Expenditures(1)	Provincial Grants(1)	Per cent of Cost borne by Province
1935	669,587	78,386	11.71
1940	1,045,064	82,648	7.91
1945	1,854,002	102,403	5.52
1946	2,056,964	107,498	5.23
1947	2,349,402	106,923	4.55
1948	2,646,600	106,126	4.01
1949	2,831,006	155,645	5.50

(1) To the nearest dollar.

The totals in this table do not represent the complete costs of general hospital services or the complete amount of provincial government aid. Institutions opened since 1935 or declared public hospitals since that time are excluded, as well as the Victoria General and Roseway Hospitals.

It can be seen that the provincial grants to this group of general hospitals have almost doubled since 1935, but the expenditures have more than quadrupled. The provincial grants, therefore, represent only half as great a proportion of the total costs as they formerly did. The greatly increased cost of hospital services has obviously fallen chiefly upon the local hospital administration. Even the fifty per cent increase in per diem rates in 1949 resulted in only a slight rise in the proportion of the total costs borne by the Province.

The Commission on Hospital Care in the United States(1) recommended in 1947 that, insofar as possible, the maintenance of hospital services should be a direct responsibility of the residents of the area who use the facilities. It is believed that this is a sound policy and that both administration and finances should be largely a local responsibility. The Provincial Government should assist for the most part in:

- (1) providing capital grants or loans to help the communities obtain the necessary physical facilities,
- (2) in maintenance grants to build up and support regional and provincial hospitals which serve areas extending over more than one town or municipality, and
- (3) maintenance grants to help with the hospital care of the indigent or partially indigent.

It is not, therefore, recommended that the Provincial Government increase its basic per diem grants to any great extent. Rather, it should supplement this basic grant by additional allowances to those hospitals which qualify as regional or provincial centers. However, it would be desirable to have the basic per diem grant and any future grants to regional and provincial centers related to the current value of the dollar. It is suggested, therefore, that grants be subject to annual change, based on a fixed proportion of the operating costs of all general hospitals in the province during the preceding year. For example, during the seven years shown in Table 32 the provincial grants provided an average of 5.5 per cent of the total expenditures. If the grant were fixed at this or some other agreed level, the per diem rate would be changed yearly to correspond with fluctuations in costs. The hospitals would then be assured of a fixed proportion of their expenses, but the major share would still come from local sources.

Table 32 showed the expenditures for general hospital services for only twenty-three hospitals. The total expenditures of all general hospitals

(1) Hospital Care in the United States - The Commonwealth Fund, 1947.

in Nova Scotia in 1948 are estimated to have been approximately \$4,597,381 and in 1949, approximately \$5,382,200. These figures are not exact, but are reasonably close approximations. Exact data, as reported to the Provincial Department of Health, are available for all excepting the Red Cross Hospitals, the general hospitals with tuberculosis units, and Roseway Hospital, a tuberculosis sanatorium with a small general hospital unit. However, reasonably accurate estimates of the costs of operating the general sections of these hospitals can be made from available data. Expenditures of Red Cross Hospitals are known for eleven months of 1949 and the total for the twelve-month period was estimated on a proportionate basis. The estimated expenditures for 1948 were calculated by applying the 1949 cost per patient-day, to the 1948 figure for patient-days. General hospitals with tuberculosis units do not have a separate accounting system for the two sections. However, the total expenditures are known, and a reasonable estimate of the operating cost of the tuberculosis unit is obtained from the amount of the Provincial grant. The latter was based on a rate of \$3.00 per patient-day in 1948 for persons in the tuberculosis unit. It was intended that this should cover the total cost of operating this section. The remainder of the total expenditures would, therefore, be a close estimate of the cost of the general hospital. Roseway Hospital makes no charges for tuberculosis patients. Its total annual income, as reported in the Public Accounts of Nova Scotia, is derived from the general hospital unit. It is assumed that this income represents the total cost of operation of the section without any deficit. This is probably a slight underestimate. The above figures are, therefore, close approximations of the actual expenditures for general hospital care. If there is any error, it is likely to be in the direction of an under-estimate.

In 1948 the Provincial Government paid \$343,143 in grants to public hospitals, but \$200,970 of this was allocated to the six tuberculosis units. The remaining \$142,173 was in per diem grants to general hospitals. In 1949, under the increased scale the per diem grants to general hospitals were \$204,806 and grants to tuberculosis units were somewhat less than the preceding year, \$182,565.

In addition to these grants the province paid the operating deficit of the Victoria General Hospital in Halifax and the general unit of Roseway Hospital in Shelburne. The size of the latter deficit, if any, is not known. The expenditure of the Victoria General Hospital in 1948 exceeded its income by \$366,936 and in 1949 by \$486,103. The total known provincial contribution for general hospital care was, therefore, \$509,109 for 1948. This represents 11.1 per cent of the total expenditures for general hospital services in the province during that year. In 1949 the provincial contribution was \$690,909 or 12.8 per cent of the total expenditures. Although the basic rate of governmental support for general hospitals in the province in 1949 covered only 5.5 per cent of the total costs, the support of the provincial diagnostic and treatment center at Halifax, therefore, raised the proportion of government assistance to 12.8 per cent. It is believed that this is a sound method for providing assistance from the Provincial Government, since the major share is used to build up and maintain a



provincial center. However, in other sections of this report it is recommended that this system of support be extended to regional hospitals which qualify for it under a grading system, and possibly also to the Children's Hospital and Grace Maternity Hospital, as the provincial pediatric and obstetrical centers. It is suggested that a satisfactory rate could be calculated from available data showing the proportion of patients referred to each institution from areas outside the hospital district. No details are presented in this report, and it is suggested that the proposed Director of the Hospital Division work out these details.

During the survey a number of persons suggested that the City of Halifax was receiving more than its share of general hospital services at the expense of the Provincial Government, since the Victoria General Hospital provided care for most of the patients of this City as well as those referred from other parts of the province. The financial relations between the City and Province relating to health services are somewhat complicated, and it is difficult to evaluate the truth of this statement. The Victoria General Hospital and the Halifax Infirmary provide general hospital services for the city. The latter is operated by the Sisters of Charity and receives a small grant from the City of Halifax. The Victoria General, as already stated, is financed completely by the Provincial Government. In 1948, 40.2 per cent of patients in this hospital were from Halifax City, and 64.6 were from the city or county. Only 35.4 per cent were from other parts of the province.

If Halifax City had been responsible for operating a general hospital to care for its patients, it might be assumed that such a service would have required an outlay at least equal to 40.2 per cent of the \$366,936 deficit on the Victoria General. Added to this would have been capital costs of providing the hospital facilities. It might be assumed also that the provincial government would have made per diem grants to such a Halifax Hospital equivalent to 5.5 per cent of its expenditures, the same grant as is made to other general hospitals in the Province. On such a basis it is calculated that the City of Halifax received general hospital services at provincial expense which would have cost \$127,624 in 1948, and \$167,686 in 1949. These figures are the estimated deficits which would have been met, not the total expenditures. Halifax County, in like manner, received services which would have cost \$77,463 in 1948 and \$101,779 in 1949. However, the receipt of these services is balanced by the fact that Halifax City obtains only a partial grant per patient-day for operation of the Tuberculosis Hospital and also operates a full-time Department of Health. Throughout the rest of the province tuberculosis treatment is financed completely by the Provincial Department of Health and most public health services are provided through the Divisions of this Department. In 1948 the expenditures for operating the Halifax Tuberculosis Hospital were \$205,542, less the provincial grant of \$83,028, or a total of \$122,514. This amount almost exactly balances the estimated cost of general hospital services provided through the Victoria General Hospital, \$127,624. In 1949 the City of Halifax had to pay \$136,236 to operate the Tuberculosis Hospital, after provincial grants are subtracted. This was somewhat less than the estimated cost of general hospital services received through the Victoria General Hospital



in that year, namely \$167,686. However, the City also provides a Department of Health which had expenditures in 1948 of \$116,667 and in 1949 of \$123,822.

It is fully recognized that the comparisons made above do not present the full picture. If Halifax City operated its own general hospital it would bear the capital costs of such an institution. On the other hand it might be said that the 35 per cent of patients referred from outside points to the Victoria General are responsible for more than a proportionate share of the costs, since they constitute the problem cases. Most of the Halifax patients would be hospitalized for shorter periods or less extensive care, and less than 40 per cent of the operating costs might be allocated to the city. Another feature is that the City receives extensive laboratory services without charge from the Provincial Department of Health.

The situation is a complex one and requires further careful study. However, it is believed that it would be better for all concerned if it were solved by some method which would take account of the actual facts and not attempt to balance the cost of one service against another. In the general report on the health survey of Nova Scotia it will be recommended that tuberculosis control and treatment in Halifax City be made a provincial responsibility as in the rest of the province. It is also recommended that a Halifax Metropolitan Health District be organized as a division of the Provincial Department of Health. Both of these developments seem to be essential if the city and its suburbs are to have health services equal to those in the rest of the province, and health personnel paid on the same scale. In return for the Province assuming these services, the City should recognize its responsibility for the general hospital care of its citizens, and the County of Halifax should do likewise. A large share of the operating costs of the Victoria General Hospital should still be borne by the Provincial Government, since this will be provincial base hospital. Possibly 50 per cent or more of the costs could be fairly allocated for the care of the 35 per cent of patients referred from other areas. The remainder should be the responsibility of the local authorities of the City of Halifax, Town of Dartmouth and Municipality of Halifax. This set-up would be in accord with the principle that general hospital services should be the responsibility of the residents of the area receiving these services, and in accord with the accepted practice in this Province that tuberculosis treatment and control and public health services can be more effectively administered at the provincial level. It would also recognize the facts of the situation and avoid the frequent recriminations of Halifax citizens to the effect that the City receives less than the rest of the province for care of tuberculosis patients and public health services, and the equally pungent comments throughout the province regarding Halifax receiving "free" general hospital services.

(1) Trends in the Demand for General Hospital Services

As already noted, there has been a great increase in the use of hospitals for maternity patients during recent years. There has also been a definite increase in the demand for hospital care for patients with acute and chronic illnesses. Table 33 shows the average number of days of hospital care per 1000 population at 5 year intervals from 1925 to 1945 and for the year 1948.

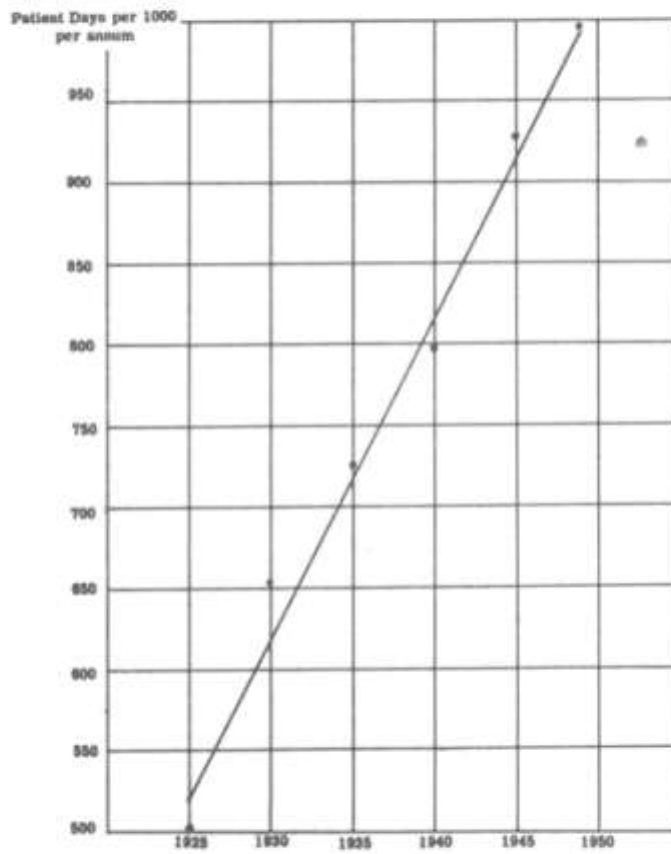
TABLE 33

TRENDS IN HOSPITAL USE BY REGION

REGION	Patient-Days per 1000 population per annum					
	1925	1930	1935	1940	1945	1948
Atlantic	987.5	986.0	1114.2	1014.2	1081.6	1254.9
Southern	112.1	192.5	307.4	267.0	318.3	275.7
Western	319.2	328.8	317.9	377.0	418.5	481.9
Fundy	139.8	361.1	435.4	631.7	744.3	675.1
Cobequid	126.6	266.5	267.0	332.7	577.3	558.4
Cumberland	358.8	281.3	262.2	364.8	692.7	733.8
Pictou	471.2	678.1	764.3	881.7	993.9	1030.0
Eastern	832.0	1248.5	1230.1	1087.0	1604.2	1791.2
Cape Breton	609.6	873.1	960.7	1093.1	1244.4	1312.7
NOVA SCOTIA	503.3	654.7	728.3	796.0	930.2	992.3

This table indicates that there has been a progressive increase from approximately 500 days of hospital treatment per 1000 population in 1925 to almost 1000 days in 1948. As shown in Figure 4 this has been almost a straight line increase, and to date it shows no tendency to level off. There has been some fluctuation within each district, but in general the trend has been almost the same throughout all parts of the province.

FIGURE 4  
TRENDS IN HOSPITAL USE IN NOVA SCOTIA, 1925 - 1948.



Various explanations have been put forward to account for this increasing demand for hospital services, which has been observed in all parts of Canada and in other countries. It is frequently stated that the growth in pre-paid hospital insurance, such as is provided by the Blue Cross Hospital Insurance Plan, has been responsible for most of this increase. However, it will be noted from Figure 4 that there has been no sudden increase during recent years paralleling the growth in this service. The trend seems to have been under way before the introduction of hospital insurance systems on a large scale. They have no doubt further stimulated the demand, as suggested by the difference between the Eastern Region and the rest of Nova Scotia, but other factors are also involved.

The influences on the development of hospitals may be classified into broad general forces. Religion, war, medical science, education, social organization, economic conditions and public appreciation have all hastened or retarded the growth of hospitals(1). In Nova Scotia all these factors have played a part. Religious orders and organizations have done much to expand and improve hospital services. War time problems during two World Wars hastened the development of hospitals in some areas, and buildings vacated by the Armed Services after the war have also provided the facilities for expanding general and tuberculosis hospital services. Advances in surgery, medicine and special technical services have increased the need for hospital care, and have sometimes made the physicians reluctant to treat patients at home or in the office because of the lack of special facilities and assistants. This is an unavoidable development since modern methods of investigation and treatment require elaborate technical equipment and skilled operators. Modern nursing has also added greatly to the value of hospital services. Economic factors have also played a part, including the modern method of pre-payment insurance. In addition, the change to small family dwellings has left almost no room to accommodate the sick, and there is also increased difficulty in obtaining home nursing services and domestic help. However, the change in the public attitude toward hospitalization is probably more important than any other single factor. Twenty-five years ago the doctor had to exercise considerable pressure and persuasion to encourage even the seriously ill patient to enter hospital. This fear of going to hospital has largely been eliminated, and today patients request hospitalization who are sometimes not seriously in need of such care. The reduction in mortality in hospitals and the demonstration that these were not "death-houses" has probably been more important as a stimulus to the demand for their service than any economic or other factors.

(1) Hospital Care in the United States, Commission on Hospital Care, the Commonwealth Fund 1947.

It may be worthy of note that the Eastern Region of Nova Scotia has the highest number of days of care per 1000 population, 1791.2 in 1948. This was further increased to 2023 in 1949 and when the addition to St. Martha's Hospital is completed it will no doubt go still higher. As already stated, this region has an unusually high demand for hospital services compared with other parts of the province. It is suggested that this may be a result of the high proportion of the population having hospital insurance and also the long history of such insurance in that area. It may, therefore, serve as an indication of the extent which hospital services will increase in other areas as voluntary or other hospital insurance plans grow.

In deciding how many hospital beds will be required in Nova Scotia in the future a major question is whether this demand will continue to grow indefinitely or will begin to level off. In 1948 the total number of admissions to general hospitals in Nova Scotia was 128 per 1000. Lee and Jones (2) suggested in their study of services required that 107 cases per 1000 should have received hospital care. This has already been exceeded in this province. In Alberta the demand began to level off at about 160 to 170 admissions per thousand.(1) In the Eastern Region of Nova Scotia it has already reached 150 admissions per 1000 per year. Most authorities believe that the expansion of pre-paid hospital insurance plans or the introduction of a tax-supported compulsory insurance program would result in a continued rise in the demands for hospitalization. If so, the financial burden of maintaining such an expanding service may become so great that more economical means must be considered for caring for the sick. The provision of home nursing services and the expansion of general practitioner and specialist services in the home require careful investigation before an uneconomic over-expansion of hospital services is allowed to develop. The Montefiore Hospital plan of caring for patients in their homes by sending hospital staff and services to them has received much favorable attention. This is, of course, only applicable to urban centers.

The danger of over-expansion is one major criticism against the development of a tax-supported hospital insurance program before the introduction of other methods to provide increased medical services in the home and physician's office, and nursing services in the home.

It is recommended that the Government of Nova Scotia, before considering the introduction of compulsory hospital insurance, look into ways and means for improving and extending home nursing services, out-patient services of general hospitals and general practitioner care of the medically indigent and of those located in "under-doctored" areas.

- (1) McGelp, J. - Are We in Danger of Building Too Many Hospital Beds in Alberta? 1949.
- (2) Lee, R. I., Jones L.W. - Fundamentals of Good Medical Care - Publication 22, Committee on Costs of Medical Care, 1933.

(j) Hospital Grading and Integration

Certain arguments have been presented in an earlier section of this report regarding the desirability of developing at least one large hospital in each of the nine regions of Nova Scotia, and of integrating all the general hospitals in the interests of better service and greater economy. This is a modern trend aimed at producing a hospital system rather than simply an unrelated collection of hospitals.

Details concerning the organization and administration of such a plan require careful study. Standards should be set up defining minimum physical facilities, personnel, etc., required in each of four grades of hospitals - community, district, regional and provincial. Hospitals would have an opportunity to move up the scale as they developed additional services. A system of inspection would be required, and the amount of per diem grants from the Province would depend upon the grade which the hospital had reached. This type of government inspection of voluntary institutions might be subject to some criticism, but it is similar to that now practised by the American College of Surgeons. It also has the support of the Maritime Hospital Association. There is already precedent for it in the present system of inspection conducted by the Department of Health through its Inspector of Hospitals and Humane Institutions.

One difference would lie in the fact that the inspection would be of the type conducted by the American College of Surgeons, another would be that the results of inspection might affect the size of the per diem grant from the provincial government. At present all public hospitals receive the same amount per patient-day.

There is no doubt that serious objections and difficulties would arise if a Government inspector tried to set standards which would limit the type of work done in any hospital, and this would be completely impractical and undesirable for other reasons as well. For example, it is quite possible that a small district hospital may have a better laboratory service or a surgeon who is better qualified than the one practising at the regional hospital. It is not, therefore, suggested that this inspection and grading system attempt to define what type of work can or cannot be done in each of the four types of hospitals. Rather, it is suggested that the Government define certain minimum requirements for each type and when these are provided the hospital will qualify for an increased per diem grant, which will help pay for the improved services. It is believed that this will encourage regional hospitals to develop adequate technical and specialist services, in order to obtain the additional grant and when these services are available there will be a natural flow of patients from the community hospitals to the district centers, and also from the district hospitals to the regional centers.

Details of the proposed grading system require careful study. It is recommended that a Hospital Division be set up in the Department of Health with a Director well trained and experienced in hospital administration, economics and other aspects of hospital planning. It is also recommended that he have the assistance of an Advisory Council representing various professional and other groups which are vitally concerned in matter.



It is suggested that the Nova Scotia Division of the Maritime Hospital Association, the Medical Society of Nova Scotia and the N. S. Registered Nurses Association should be represented. Probably Dalhousie University should also be included. It is the medical teaching center and as such, should play an increasingly important part in an integrated hospital plan.

It is most emphatically recommended that the Director of the Hospital Division of the Department of Health should not have any authority involving the internal administration of a hospital or of the clinical or technical services, (except in Government institutions). A workable basis for division of responsibility between the Health Department and the practising clinician is outlined in the introductory section of the Report on the Public Health Survey of Nova Scotia. A clear-cut demarcation of responsibilities in the hospital field will avoid later misunderstandings. It would also go far toward removing the lingering suspicion that provincial government aid to hospitals, and a hospital grading system, might be the first step toward control of the actual operation of the institution and its clinical services. This is not envisaged as a future development and is not recommended in this report.

There have been criticisms of hospital grading based on a scoring system. By this method a single score, made up of many component parts, is calculated for each hospital. If this score reaches a certain level the hospital is granted an increase in grading. Under such a system a hospital with a dangerously poor infants' nursery might add so many points for other less important features that a passing grade would be attained without any improvement in the nursery. It is suggested that the grading system in Nova Scotia should require a "passing" score for each of the services considered basic for that type of hospital.

Since regional hospitals will be expected to receive and care for patients from the whole region, and will have to meet additional capital and operating costs in order to provide technical equipment and trained personnel, it is logical that a larger grant should be provided to them than to district hospitals. It is also recommended that a hospital should be approximately 100 beds in capacity before it could qualify as a Regional Hospital, since it is uneconomical to operate good laboratory and x-ray services in smaller units, and there is insufficient work to support specialists in the major branches of clinical medicine, surgery and obstetrics.

Many district hospitals of Nova Scotia have inadequate x-ray and laboratory services, and what is available lays an inordinately heavy financial burden upon the patients. Charges for laboratory tests and x-rays constitute a much greater proportion of patients' bills in small hospitals, that have relatively poor services in these fields, than in larger well-staffed institutions that provide better service. In the small district hospitals expensive



equipment is in use only part of the time, and the technician is frequently idle or becomes an odd-job worker in other fields, eventually losing skill in his or her special work. Many of the smaller hospitals have one person employed both as a laboratory technician and x-ray technician. For the most part these technicians are qualified in only one of the fields, or may be only partly trained in both. Specialist services within the medical profession are also lacking in many of the small hospitals. The services of a radiologist are available in only a relatively few hospitals in the province. In the Sydney-Glace Bay area, a system has been worked out to have one radiologist serve several hospitals. This type of cooperative arrangement might be introduced in other areas with considerable improvement of the services.

Perhaps an even greater need for integration of hospital services lies in the field of major surgery. There is at present little cooperation or consultation between the surgical services of neighboring district hospitals. Only the provincial hospital is used as a referral center for major problems of diagnosis and treatment. However, all of the cottage hospitals except Annapolis and North Queens are operated by the Canadian Red Cross Society, and this organization has laid down definite rules limiting the type of work to be done in these institutions. Major surgery is excluded, except in emergencies. In most of these hospitals tonsillectomies are also excluded. In general, this policy seems a sound one. Most of the hospitals do not have more than one doctor on the staff. Lack of qualified anaesthetic service and of an assistant surgeon require strict limitation of the type of work to be carried out in such hospitals. The physician is under considerable pressure from the people of the area to undertake all types of surgery. Having supported the establishment of a hospital in the area, they feel that it should care for all patients regardless of the severity of the condition. It is, therefore, better to have the hospital accept the burden of responsibility for limiting the type of service than to add to the doctor's responsibilities. Patients requiring major surgery are transferred from these Red Cross Cottage Hospitals to the nearest district hospital or to the provincial institutions in Halifax. This type of control may be only temporary. The Society has guaranteed to under-write the operating deficit for only three years. If the control is discontinued, the provincial government should continue to enforce the same limitations on any cottage hospital receiving per diem grants, and should institute similar controls on cottage hospitals not operated by the Canadian Red Cross Society.

The situation is somewhat different in the district hospitals. Here there are usually several staff doctors who assist each other. There may or may not be certified specialists, but the senior practitioners are well qualified by experience and practical ability. It is not desirable or practicable that there should be any regulations in the grading system that would limit the work done within such a hospital. The medical staff will be in the best position to judge what cases require transfer to centers with more adequate technical or professional services, and when these become more readily available at the regional

levels they will make use of them. However, it is believed that there is a need for including in the grading system a requirement that the medical staff adopt and enforce regulations requiring supervision of junior staff members. Considerable major surgery is done in the district hospitals. In some of these the facilities and trained personnel are adequate, but in others there are definite deficiencies. Only 2 of the 16 hospitals with 20 to 49 beds require special training in surgery or the approval of the medical staff, or both, before permitting a new staff member to do major surgery. Most of the hospitals of more than 50 beds do have regulations limiting or requiring supervision of the work of new staff members until the approval of the medical staff is granted, but these regulations are not always enforced. That many of the hospitals do not place any limitation on staff members doing major surgery or operative obstetrics does not mean that this privilege is abused. In many institutions it probably is not. However, gastrectomies, hysterectomies, caesarian sections, etc., are among the operations not infrequently reported from some of the smaller hospitals which do not have a trained or experienced surgeon. In the public interest some control of the quality of service in these district hospitals is required. Standards should be laid down by the Director of the Hospital Division in consultation with an Advisory Council. However, the day-to-day supervision of the quality of service in the hospital should rest where it belongs - with the medical staff of the hospital. Only if they refuse to accept this responsibility would there be any reason for interference by a hospital inspector. Disregard of the basic requirements laid down in the grading system would then be subject to review by the Regional Council and Director

In order that a specialist in surgery or any other branch of medicine attain proficiency, an adequate volume of work in his specialty is necessary. This depends largely upon the volume of referrals from other practitioners and is a matter which must be worked out by the medical profession itself. No rigid system of controls over the type of work to be done in a district hospital can be imposed or enforced from a provincial level, and it would undoubtedly be objected to. The responsibility rests with the medical profession, both in the provincial and local organizations, and particularly with the hospital medical staff, to institute their own controls on the quality of service and limitations on the less qualified staff members. If this is not done by the profession it will almost certainly be imposed by a Government inspection at some future date. Avoidance of Government interference in hospital administration and medical services can best be achieved by cooperative efforts of hospital staff members to provide a quality of service which cannot be seriously criticized.

It is recommended then, that the provincial government provide financial assistance toward the development of at least one adequately-equipped general hospital in each of the hospital regions. Where more than one institution reaches high enough standards to qualify, both should receive the same grants. The remaining district hospitals should be encouraged to improve their facilities and to make more use of those available in the regional center. Insofar as possible this should be done without institution of regulations limiting the type of work, but each hospital should be required to introduce and enforce its own controls on the quality of service in order to qualify for provincial government grants.

It should be emphasized that an integrated hospital system does not consist solely in building up regional centers and trying to encourage or enforce the transfer to them of patients with more complex problems of diagnosis and treatment. A good hospital system requires at least as much flow of services and specialist aid from the regional and provincial centers to the smaller hospitals. An organized system of clinics, consultations and ward rounds by the specialists of the provincial hospitals should be carried out in the regional hospitals, and likewise by the regional specialists on regular visits to the district hospitals.

As will be mentioned later, it is also recommended that the regional general hospital should have associated with it the regional chronic disease hospital and the regional psychiatric hospital, these may both be wings of the General Hospital and should at least be connected with it by tunnel. The regional nursing school should also be located in the same institution.

## 8 X. HOSPITALS FOR THE CHRONICALLY ILL

### (a) The Problem of Chronic Disease and Its Importance

It is generally recognized that persons suffering from chronic diseases are less effectively cared for than the acutely ill, under the existing hospital system, apart from those who have tuberculosis or mental diseases. Nova Scotia is no exception in this regard. Only one general hospital in the province has any separate facilities for the care of the chronically ill and it has only twenty-six beds. Some hospital treatment is provided in other general hospitals but it is limited in scope. Frequently also it is not of the type best suited to the needs of the particular ailment, since most general hospitals are not equipped to provide such care.

It is not easy to formulate a fully acceptable definition for the term "chronic disease", but the following has been used in a number of surveys(1);

"A chronically ill person is one of any age who has been or is expected to be incapacitated by persistent or recurrent disease for a period of at least three months. Incapacitated persons are those unable to follow the routine of a normal person".

The treatment of such chronically ill persons is becoming an increasing problem in this country. Chronic diseases are now the principal causes of morbidity. Several reasons for the increase may be briefly mentioned. As already shown, a greater proportion of the population is in the older age groups, which are most subject to chronic diseases. Progress in preventive medicine has reduced the incidence of many acute conditions with the result that chronic diseases now constitute an increased proportion of all illness. Periods of hospital care have also been greatly reduced for many of the acute diseases as a result of improvements in therapy. The demands on hospital time for the care of the chronically ill are, therefore, proportionately higher. Difficulty in obtaining home nursing care, the small size modern living accommodations and various other factors also have a bearing on this problem.

The present medical care system is organized primarily for the prevention and treatment of acute illness, and the hospital system is devoted almost wholly to this type of condition. Too little

(1) A Survey of the Care of the Chronically Ill of the Milwaukee County Council of Social Agencies, 1946.

attention has been given to the adjustments which must be made in medical services and hospital administration, in medical education and research, in nursing and social services, if adequate care is to be provided for those patients who require treatment and supervision for long periods of time. There is a growing demand for improvement in the hospital facilities for the treatment, the prevention of permanent disability and the rehabilitation of these individuals. During the survey of hospitals in Nova Scotia the one defect in the present hospital system upon which almost every hospital superintendent and head of the medical staff commented was the great need for improved facilities for the care of the chronically ill.

(b) Type of Hospital Facilities Required

The type and quality of care required by many of these chronic patients differ little from those needed by the patient afflicted with an acute illness. Patients with such chronic diseases as diabetes, hypertension, cancer, chronic bronchitis, asthma, rheumatoid arthritis, or chronic nephritis, require extensive facilities for diagnosis and treatment. The chief difference between the two types of patients lies in the longer average stay in hospital and in the amount of special services the chronics require for prevention of permanent disability, or rehabilitation to a useful degree of activity. General hospitals have been loathe to accept these patients or to continue treatment beyond the time ordinarily needed for the acutely ill. This is particularly true today, with the rising costs of hospital operation.

The statement is frequently made that the cost of operation of a hospital for chronic disease will be much less than that of a general hospital. This is not quite true. The cost can be somewhat less per day, but the period of hospitalization is longer, and the cost per patient is, therefore, greater. Moreover, special physical facilities and trained personnel are essential if the hospital is to serve any effective function. Physiotherapy, occupational and recreational therapy and other special forms of treatment are essential. Solaria, sitting-rooms and recreational facilities are also required.

A strict differentiation must be made between the requirement for hospitals for chronics and the need for homes for the aged, infirm and permanently disabled. It is the former need which we are concerned with - the provision of hospitals with the special equipment, the trained technical personnel and the professional specialists needed to diagnose, treat, prevent disability and rehabilitate the chronically ill, who can benefit from this hospital care. These hospitals must also include care of the incurables who require skilled medical and nursing attention for relief of their suffering, but not the group who need only a home with a certain degree of custodial care. Separate institutions or homes are required for these individuals. Moreover, the need for facilities for convalescent care should not be confused with the hospitalization of the chronically ill. A convalescent home may be established in close

proximity to a hospital for chronic disease in order to take advantage of occupational and rehabilitation facilities, but it is not desirable to mix the two classes of patients.

(c) Present Facilities in Nova Scotia and Estimated Requirements

Estimates of the prevalence of chronic diseases vary widely. One report states that more than one-sixth of the population of the U.S.A. has a chronic disease, or 25 million persons. Seven million of these are said to have a resulting disability that impairs their normal way of life, and one and a half million are invalids. Based on the same proportions, one would estimate that Nova Scotia might have 113,000 persons with chronic diseases, 32,000 of them disabled in some degree and 6800 invalided. However, a calculation based on the age specific rates determined on the 1935-36 National Health Survey of United States applied to the Nova Scotia population would place the figure at approximately 60,000 with chronic disease or physical disability and 3800 invalids. It is not known which estimate is nearer the truth. It is hoped that the sickness survey, now being planned, may provide data on this subject. Other studies on the incidence of disabling attacks of illness resulting from chronic diseases indicate a rate of 14 to 17 per 1000 per annum for all age groups. One study(1) shows a variation from 3.6 per 1000 in those under 15 years to 86.4 per thousand in those over 65 years. Hospital treatment is not required for all such disabling attacks and data on the bed requirements are not readily calculated from these rates. However, it has been estimated in several studies that 2 beds per thousand are needed for the chronically ill. (2) The Master Plan for New York City recommended 1 bed per 1000 for convalescent care and 3 per 1000 for chronically ill. Standards based on conditions in a large city would probably not be applicable in Nova Scotia and 2 per 1000 might be nearer to our requirements. However, we have no direct data on which a calculation of the local needs can be based, and some practitioners consider this calculation also is too high.

It is difficult to obtain precise data concerning the incidence of chronic illness requiring hospital care in the Province of Nova Scotia. Data are not available on cases now treated at home who should be in an institution and it is even difficult to obtain an accurate estimate of the number of chronic cases being treated in

- (1) Hollingsworth H and Klem C - "Medical Care and Costs in Relation to Family Income" Washington Social Security Board, 1943.
- (2) Standard Hospital Requirements according to the Recommendations of the Surgeon General of the U.S.Public Health Service.



the general hospitals who might have been more effectively handled in an institution for chronics during part or all of their hospital stay. Only one hospital provides a small separate section for treatment of chronic cases - Sydney City Hospital having two wards totalling 26 beds. This is considered by the superintendent to be quite inadequate to meet the demands. Superintendents of many other general hospitals were rather vague in their statements as to procedure with respect to such cases.

Many stated that they tried to exclude chronic cases, but some added that they were not very successful. Others limited the stay to three or four weeks, and enforced discharge at that time regardless of home conditions or the status of the patient. The Victoria General Hospital (Provincial) admits patients with chronic diseases who require active treatment and keeps them so long as progress is being shown, but will not retain them for custodial care only.

An attempt was made during the hospital survey to obtain some indication of the number of patients with chronic diseases who were occupying beds in the general hospitals. A check was made of the diagnosis of all patients who were in hospital on two sample days in 1948, April 1st, and December 31st. All diagnoses suggesting that the disease might be of a chronic nature were counted, and calculated as a percentage of all patients present in hospital on those days. It is recognized that this is only a crude measure and that many of those patients might have required general hospital care because of an acute exacerbation of the chronic disease. Nevertheless the data may be of some value as an indication of the approximate amount of hospital care now provided for the chronically ill in this province. It is interesting to note that the figures obtained on the two sample days in the Victoria General Hospital were only slightly lower than those obtained on a one-month survey in November, 1947(1). The results on the two sample days were very similar to each other in most hospitals. The hospitals of over 100 beds had 28 per cent and 25 per cent of chronically ill on the two sample days, respectively. Those of 20 to 99 beds had 17 and 18 per cent. It is believed that the average of the two sample days gives a reasonably close estimate of the percentage of the total yearly patient-load who suffer from chronic diseases. However, it is still difficult to estimate what proportion of these would best be cared for in the general hospital and what proportion in a special hospital for chronics, if both facilities were available.

Table 34 shows the results of applying the data obtained on the two sample days to the yearly population of the same hospitals.

- (1) The Chronically Ill, A Study of the Problem in Halifax Institutions by Helen Freeman, Thesis, Maritime School of Social Work, 1948.



TABLE 34

ESTIMATED NUMBER OF PATIENTS WITH CHRONIC DISEASES IN 38  
GENERAL HOSPITALS, BASED ON TWO SAMPLE DAYS

Per cent chronics on sample days	Number of Hospi- tals	Total Pat- ients in 1948	Est. Chronic Pat- ients	Total No. Hos- pital Days	Avg. stay per Patient	Stated Policy re Admission of Chronics		
						Admit- ted	Limit- ed	Exclud- ed
0	5	2,654	0	14,628	5.5	1	3	1
1-9	4	7,721	538	48,551	6.3	0	3	1
10-19	10	27,046	3,508	166,741	6.2	6	3	1
20-29	13	34,198	8,593	342,055	10.0	6	7	0
30 & over	6	10,479	3,503	104,035	9.9	2	4	0
<b>TOTAL</b>	<b>38</b>	<b>82,098</b>	<b>16,142</b>	<b>676,060</b>	<b>8.2</b>	<b>15</b>	<b>20</b>	<b>3</b>

It is obvious that the stated policy regarding the admission of chronically ill patients has little relation to the actual facts. Some hospitals which report that their policy is limitation or exclusion have as many such cases as the institutions which report that chronic cases are admitted freely. The figures suggest that a considerable number of hospitals are open to chronic patients. This is not quite true. There are definite limitations in almost all hospitals at least on duration treatment.

There is an increase in the average stay of patients in the hospitals that had a higher proportion of chronic patients on the two sample days. However, there are marked fluctuations and the relation is not consistent.

Based on these figures, one might estimate the average daily stay in hospital of acutely ill patients at 5.5 to 6.3 days, as in those hospitals having few or no chronic patients. Subtraction of the estimated number of chronic patients from the total patient-load and estimation of the total patient-days of hospital care for these acutely ill patients would indicate that each chronically-ill patient must have an average of 17 days in hospital, almost three times as long as the acutely ill persons. In all Nova Scotia hospitals the estimated proportion of chronic patients was 24.9 per cent, and these apparently required 48.7 per cent of the total hospital days. These are very rough estimates. It is probable that the average stay in hospital of acutely ill patients is longer in the large regional hospitals than in the district and cottage hospitals, which contributed most to the first two groups in the above table.

More patients with acute illness of long duration, such as fractures, may be treated in the larger hospitals. But even if the average stay of acutely ill patients were 8 days in the six largest hospitals, it is calculated that 26.7 per cent of their patients who had chronic diseases would require 45.7 per cent of the total days of hospital care. Probably the minimum figure is 267,000 patient-days of care for the estimated 19,200 patients in all hospitals who had a diagnosis of a chronic disease, or 13.9 days per patient. This is almost certainly an under-estimate. Yet, it means that 267,438/365 or 732 hospital beds were occupied throughout the year by chronically ill patients. If the usual standard of 2 beds per 1000 were provided for chronically ill in this province, we would need a total of 1270 beds now or 1382 by the year 1961. It would appear, therefore, that the general hospitals have already been providing somewhat more than half of the bed requirement for the chronically ill, and this should be considered both in our estimates of future requirements for beds in chronic disease hospitals, and in the estimates of the true bed requirement of the general hospitals.

It must be emphasized again that the data obtained on the two sample days were based on diagnosis only. Many of these patients may have required treatment in a general hospital rather than in a hospital for chronics. There seems to be no way in which an accurate estimate of the true needs for chronic disease hospitals in Nova Scotia can be arrived at. It would seem logical to plan to provide 2 beds per thousand as the ultimate goal, since this is an accepted standard. However, it is also wise to assume that approximately half of the need is now being met by the general hospitals. In areas where the number of general hospital beds is up to standard, only one bed per thousand for the chronically ill should be provided until it becomes clear whether more are needed. In areas where general hospitals are crowded, construction should be on the basis of 2 beds per thousand for chronic diseases, and the estimated needs for the general hospitals reduced by approximately one bed per thousand.

#### (d) Proposed Location and Size of Chronic Disease Hospital

Completely separate institutions are not to be recommended for chronic diseases under any circumstances. To receive good medical services and ancillary care the chronically ill patients should be in a separate wing of a general hospital, or at most not further removed than in a separate building connected by tunnel to the main hospital. This also permits ready transfer of patients from one unit to another.

As already stated, the chronic disease hospital is not a custodial institution but an active treatment unit. Provision of adequate facilities for rehabilitation, physiotherapy, occupational therapy, recreation, etc. requires a reasonably large institution, if it is to be well-staffed and economically operated. Provision for chronically ill patients is, therefore, not possible nor desirable in all general hospitals. On the other hand over-centralization in one or two large

institutions would mean the moving of patients long distances from their homes. When prolonged treatment is required this is to be avoided if possible, since patients are more content to remain at the institution and complete their treatment when they can receive visits from their relatives and friends. As a practical compromise, it is recommended that one hospital for chronic diseases be located in each hospital region in association with the regional general hospital and with a joint staff. No unit should be smaller than 50 beds and units of 100 are to be recommended.

Some Regional hospitals already have a Tuberculosis Unit built by the Provincial Government. When facilities for the care of tuberculosis become adequate in the three provincial sanatoria and these units are released, it is recommended that the present clause restricting their use to tuberculosis be changed to limit their use to the care of chronic diseases in centers where such a hospital is required and where the Tuberculosis Annex would be adequate in size and otherwise suitable.

On this basis the following tentative suggestions concerning the care of the chronically ill in Nova Scotia are put forward:

It is estimated that the Atlantic Hospital Region will have a population of 163,000 by 1961. On the basis of 2 beds per thousand 326 beds would be required for the chronically ill. It is estimated that the two general hospitals and the pediatric hospital are now providing slightly more than 100,000 hospital-days of care for persons with a diagnosis of chronic disease, representing approximately 275 occupied beds. It is probable that one-half of this time could have been spent in a special active-treatment center for chronically ill, and only 137 of these beds were used for general hospital purposes. Assuming the general hospitals continue to provide these services, the requirement for chronic disease hospitals would be 189 beds. The maximum would be 326 beds, if general hospitals provided no care for the chronically ill. This chronic disease hospital should be directly connected with one of the general hospitals and should include a provincial active treatment center for arthritis and rheumatism and a modern rehabilitation center. It is recommended that it be provided in association with the Victoria General Hospital and have a minimum of 189 beds.

The hospitals of the Southern Region have accepted few chronically ill patients in past years because of inadequate facilities. With completion of the hospital at Lunenburg the region will have 23 beds more than the general hospital requirement calculated from the bed-death ratio and maternity needs. Based on the 1961 estimated population of 49,000 a total of 98 beds may ultimately be required for the chronically ill. Because of the recent increase in general hospital beds in this region, it is likely that at least half of this requirement can be handled in existing institutions, although these

will not provide any good active-treatment and rehabilitation set-up. If there appears to be an un-met need in a few years, a hospital for chronic diseases of approximately 50 beds may be required. It is recommended that this be located in direct association with the general hospital at Bridgewater, which is the most central of the hospitals of the region.

The Western Hospital Region would also require 120 beds for chronically ill, based on 2 per 1000 of the 1961 population. This area is under-hospitalized and very little service has been provided for chronic patients in the general hospitals. Unless 2 beds per thousand is an over-estimate this area should, therefore, require the total number of 120 beds. However, to be conservative, it is recommended that a wing of at least 60 beds be provided for chronic diseases if a new general hospital is constructed at Yarmouth, and that provision be made in the plans to double the size of this wing if required. This is in addition to the 168 beds already recommended in Table 20 for the care of the acutely ill.

The calculated requirement for the Fundy Region is 146 beds for chronics. It is estimated that the general hospitals are now providing about 10,000 patient-days of care for such cases, the equivalent of about 30 occupied beds. There are a number of private nursing homes in this area also, although they are capable of giving only custodial care. It is believed that an institution of 75 beds should be provided for treatment of the chronically ill, with provision for expansion to twice that size if the need should arise. This should be a single institution for the area, not scattered among several hospitals. It should also be directly connected with a general hospital. Kentville or Middleton are suggested because of central location, size of existing or planned hospitals and availability of some specialist services.

The Cobequid Region should have 99 beds for chronics by 1961, if 2 per thousand are provided. The region will be somewhat below the estimated requirements in the number of general hospital beds even when the new addition to the Colchester County Hospital is completed. However, in spite of the shortage of hospital beds a considerable number of chronically ill patients have been treated in this general hospital. It is conservatively recommended that a wing of 50 beds be provided in association with this hospital, planned in such a way that it can be doubled if required.

The Cumberland Hospital Region should have 89 beds for the chronically ill, calculated on the same standard as above. The general hospital facilities are not adequate to provide any significant services at present. The Tuberculosis Annex at Highland View Hospital in Amherst is only 17 beds. Even if eventually it should be unnecessary for this purpose, it would be too small to provide more than a token service for the chronically ill. This hospital needs some 37 additional beds to meet its estimated requirement for general services. It is, therefore, recommended that this Tuberculosis Unit, when it is no longer

needed as such, should be converted into a maternity section for the general hospital. This would be almost exactly the size required, and would provide a highly desirable degree of separation from the other services, at the same time releasing space for other purposes in the main building. Provision for chronically ill should be made in a separate building or wing of this hospital or the one at Springhill, if a new general hospital is constructed there. The availability of some specialist services would favor Amherst as the site for this hospital. A 50-bed unit is recommended, with provision for expansion if necessary.

The Pictou Hospital Region will have approximately 30 beds in excess of estimated general hospital requirements if and when the New Glasgow Hospital as now planned is completed. The estimated needs for chronic beds at 2 per thousand would be 86. It would be highly desirable if the plans for this institution could be modified to include 20 additional beds, which, together with the surplus 30 beds, would give a 50 bed chronic disease wing. This would be a good nucleus, and might even prove sufficient for the area.

The Eastern Region requires 52 beds for chronics based on the 1961 estimated population and the standard of 2 beds per 1000. St. Martha's Hospital is now providing care for a number of chronically ill patients. One-third of all patients were in this category on the two sample days, but an unknown proportion of these would have required general hospital care in any event. Some would, however, be better cared for in a unit with special facilities, and it is now planned that the new additions will provide a small Chronic Disease Section. Another possible solution would be to have the tuberculosis unit of 49 beds made over into a hospital for chronic diseases, if and when the provincial sanatoria are expanded to the point that this unit will no longer be required. However, this Tuberculosis Unit is likely to be used as such for some years. If the two sample days provided a reasonably true index of the number of chronically ill, it is estimated that 1231 of the 3622 patients treated in 1948 were in that class. If the remaining 2391 had an average hospital stay of 8 days each, a total of 19,128 hospital days were employed for treatment of the acutely ill. The total patient days for the year were 46,122, leaving 26,994 patient-days for the 1231 chronically ill, or 21 days each. This would represent 74 occupied beds. However, not all of such patients with a diagnosis of chronic disease could be best treated in a special annex, and, therefore, fewer than 74 beds in the general hospital would be released if an adequate chronic disease unit were constructed. Forty-nine beds would probably be sufficient to accommodate those who could be moved from the general hospital. These 49 beds could provide care for 852 chronically ill patients for an average of 21 days each, and would release an equal number of beds in the general hospital.

The estimated bed requirement for this hospital was 186 beds (Table 25) based on bed-death ratio. This estimate reflects the practice of treating a proportion of chronically ill, and would be lower if separate provision were made for chronics. The general hospital now has a capacity of 109 beds. Seventy-seven additional beds are, therefore, needed to meet the standard of 186 beds. If 49 of these could be provided by removing chronically ill patients only 28 additional



beds might be needed. Since an addition of more than 100 beds is planned, this should prove to be sufficient for both the acutely and chronically ill who require hospital care without making any use of the Tuberculosis Unit. Proposals have been made for the establishment in Antigonish of a home for aged and the chronically ill who need only custodial care. Possibly the release of the Tuberculosis Unit at some future date would provide a building for this purpose.

The Cape Breton Region with an estimated 1961 population of 180,841 may require as many as 361 beds for chronically ill. Most of the present hospitals have a considerable proportion of chronically ill patients, averaging 24 per cent. The total number of days of hospital care for these patients represent the equivalent of 160 beds. If these were released the capacity of the general hospitals now available or under construction (730) should be sufficient to meet the requirements, which were estimated at 861 beds by the bed-death ratio. There are also a total of 139 beds in the Tuberculosis Units associated with Glace Bay General (48), St. Joseph's (48) and Sydney City Hospitals (43). If some of these could be released for the care of chronics a great improvement would result, although it would be preferable to have at least one larger unit to provide a good active treatment center for chronics. One proposal has already been suggested, namely, that St. Rita's Hospital in Sydney assume responsibility for active treatment of the chronically ill for the whole city, and the Sydney City General for acute cases. It is recognized that this proposal is unlikely to be accepted. However, it is strongly recommended that no more than two hospitals for chronics be established in Cape Breton County, whether in Sydney or Glace Bay. Four small units would be uneconomic, and worse still, would not be adequate to provide good rehabilitation, physiotherapy, occupational therapy and other special services. The present Tuberculosis Units at Sydney City and St. Joseph's Hospitals might serve as the nuclei. A part or all of the old building of 68 beds at Sydney might also be used for chronics, since there will be more than enough beds for the acutely ill when the new building of 141 beds is provided, and St. Rita's Hospital is also constructed. The old hospital together with the Tuberculosis Unit at Sydney would provide a 111 bed Hospital for Chronics. St. Joseph's at Glace Bay might use the Tuberculosis Unit as a nucleus for a similar institution to serve the whole region or a new wing for chronics might be added at St. Rita's. It is suggested that a minimum of 180 beds be provided for the area as a beginning (one per thousand). Any increase beyond this should be in the unit at St. Rita's or St. Joseph's until this equals the one at Sydney City Hospital.

To summarize, 1377 beds would be required in Nova Scotia to care for the chronically ill if based on the standard of 2 beds per 1000 for the estimated 1961 population. However, it is not believed that this number of additional beds are needed now, since general hospitals already care for a considerable proportion of these cases. Provision of nursing homes and other facilities for the custodial care of the completely disabled and elderly are at least as necessary as provision of hospital facilities for the chronically ill who can still benefit from medical and hospital care. It is believed that the hospital requirements for the latter types would be met by providing 594 additional beds as shown in table 35, together with the transfer of other hospital facilities in Sydney and Glace Bay.

TABLE 35

Recommended Units for the Chronically Ill

Region	Hospital	Number of New Beds	Use of Existing Beds
Atlantic	Victoria General, Halifax	189	
Southern	Dawson Memorial, Bridgewater	50	
Western	Yarmouth General, Yarmouth	60	
Funday	Blanchard-Fraser, Kentville	75	
Cobequid	Colchester County, Truro	50	
Cumberland	Highland View, Amherst	50	
Pictou	Aberdeen, New Glasgow	50	
Eastern	St. Martha's, Antigonish	49	or 49 in T. I. Unit
Cape Breton	Sydney City, Sydney		T. B. Unit 43, Old Hospital 68
" "	St. Joseph's	21	48
" "	Glace Bay or St. Rita, Sydney	69 plus	
		594	159

It may appear that the number of beds thus proposed is large when compared with the general hospital requirements of the same areas. This is true, but it is necessarily so because of the much longer periods of hospitalization and consequently the small number of patients who can be cared for per hospital bed during a year.



It is again emphasized that the provision of beds for the acutely ill in general hospitals and for the chronically ill who need hospital treatment, in special wings or sections of the regional hospitals will still leave a gap in the hospital system. If a hospital insurance plan were to be introduced before hospital facilities were available to care for the chronically ill, the general hospitals would be overwhelmed with these cases and be unable to care for the acutely ill. This has been the experience in other areas where such insurance was introduced. But, it is equally true that the Hospital for the Chronically Ill would soon be filled with permanently disabled or others requiring only custodial care. Rehabilitation and treatment services would be unnecessary for such cases and this hospital would also fail in its function. There is, therefore, a definite need for the third member of the hospital group - the nursing home. The invalid who requires little hospital or medical care can be looked after more effectively and more economically in small home-like units. These can also be scattered so that they will be located nearer to the homes of the individual patients which is a desirable feature. There is no need for centralization of the facilities for their care.

The basic need is to develop a system of standards and licensing, with periodic inspection, and to provide sufficient financial incentive to encourage the local development of such nursing homes. It is recommended that financial details be worked out by the proposed Director of the Hospital Division to encourage the development of an approved group of nursing homes, and to provide financial assistance for their maintenance by means of per diem grants.

The existing type of county home or hospital does not fit into this modern hospital system. As operated at present most of these are a combination of a welfare institution for indigents and a mental hospital, with little or no facilities for psychiatric treatment or even a nursing service. The recommendations of this report are for a centralization of psychiatric and active treatment units for the chronically ill in separate sections of regional hospitals. It is believed that most or all of the remainder could be best cared for in nursing homes, rather than in large municipal institutions. It is probable also that this would be more economical.

9 ~~(8)~~ HOSPITAL INSURANCE

Brief reference has already been made in several sections of this report to systems of hospital insurance financed by government. This subject requires further comment.

Strong movements have been developing in recent years with the aim of reducing the financial burden of medical, hospital and health services by employing insurance methods to pool the costs. The growing public appreciation of the benefits of such medical and hospital services and the increasing costs of providing them have combined with other factors to hasten the development of these insurance plans. Governments have also been moving toward the acceptance of wider responsibilities for these aspects of social security.

Not all of these insurance plans have been soundly conceived or financially stable, but some of the voluntary non-profit organizations, such as Blue Cross, have built up a strong and efficient hospital insurance system. However, these voluntary non-profit insurance plans are said to have certain deficiencies. Critics state that they provide insurance coverage for only a portion of the population, that the low wage earner and indigent cannot afford to budget for or insure against the costs of illness or hospitalization, and that adequate coverage can only be obtained by a compulsory hospital insurance plan financed or supported by government. Similar criticisms are directed against pre-paid medical care insurance plans.

Two provinces of Canada, Saskatchewan and British Columbia, have embarked upon hospital insurance plans. Some definite advantages have accrued, but serious problems have also arisen, particularly with respect to finances. The Government of the Province of Nova Scotia must consider its future policy in this respect with considerable care.

There can be little argument against the desirability of individual budgeting to cover the costs of illness or pooling the costs through an insurance plan. This has many obvious advantages both to the insured person and the institutions or individuals providing the services. There is also no doubt that a portion of the population cannot afford the premiums of an insurance plan. But how large this proportion is may be subject to considerable argument. There are some who would wish the Government to assume the major share of the cost of a complete health insurance plan, and to finance it through some form of taxation. Others argue that a major portion of the population can now pay for hospital and medical care and should continue to do so. The burden of such costs would be lightened somewhat through a contributory insurance plan, whether under a voluntary or governmental agency. An individual would

pay no more on the average than at present but would be relieved of the financial catastrophe of a major illness.

No precise figures are at hand to settle this difference of opinion as to how many persons need financial assistance from the government to insure against the costs of health services. It is doubtful whether any of the available figures on the incomes of wage-earners will give a clear index of the proportion who can or cannot afford to pay health insurance premiums. It depends not only upon the person's income but also the size of the premium, the number of dependents for whom protection must be secured, the interest of the individual in providing insurance protection of this type, and whether hospital insurance alone or hospital and medical care insurance is to be provided. A considerable proportion of the population might be able to afford a hospital insurance premium of eighty-five cents a month per person or \$1.75 per family, (Blue Cross rates) but might not be able to pay an additional premium of \$1.50 to \$5.50 for medical care insurance as well. (Maritime Medical Care rates). Arguments that a large proportion of the population cannot afford complete medical care do not necessarily apply when only hospital insurance is under consideration, since this is less expensive.

It may be pointed out once again that seventy-five to eight per cent of the population of Antigonish County are covered by hospital insurance under a voluntary plan, although this is not a region of high economic status. In fact, it is one of the counties which had shown a consistent drop in population from 1901 to 1941, largely for economic reasons. The active interest of church organizations in hospital insurance and other forms of co-operative effort has had considerable effect in this region. It, therefore, appears that, when local interest is stimulated, a major portion of the population can afford pre-paid hospital insurance. Whether or not all of the remaining 20 to 25 per cent would require Government aid is not known.

There is little doubt of the desirability of extending hospital insurance coverage to a larger portion of the population of Nova Scotia. In 1948 the total enrollment in the Maritime Hospital Service Association (Blue Cross) was approximately 123,000 or somewhat less than 20 per cent of the population. How much this could be extended without direct government assistance is not known, but the Antigonish experience suggests interesting possibilities. Whether a government-sponsored compulsory system will be necessary depends partly upon the success of the voluntary agency in extending its coverage. However, it should be noted that the Blue Cross Plan had rather wide coverage in British Columbia but it was still replaced by a compulsory government plan.

If a government-financed system were introduced, replacing the voluntary plans, a decision would be required as to the extent of direct Government financial support and the amount to be collected in the form of contributions, premium payments or direct taxes from the insured individuals, their employers or both.

The Commission on Hospital Care in the United States(1) recommended that insofar as possible, the maintenance of hospital services should be a direct responsibility of the residents of the area who use the facilities. It is believed that this is a sound policy. Applying a similar principle, the government insurance plan should be so organized that the major portion of the operating budget of a local hospital should be met by the premiums or tax contributions of the citizens of that district. The contribution of the provincial and/or Municipal Government should be sufficient to cover the costs of caring for the indigents and also to reduce the total costs so that the monthly or yearly premium or hospital tax would be at a level within reach of the lower income groups. If a substantial Federal grant were provided, it could be used to assist in this respect.

In estimating the total cost of such a hospital service and the size of annual premiums, past experience in this province can serve as only a very rough guide. There is no easy way to estimate the extent of the demand upon hospital services which would follow introduction of a government-supported plan or even a wide extension of the voluntary insurance plans. The extent of un-met needs is not known, and estimates have not proven very reliable in the past. Experience in other provinces and in Great Britain show that there has been a very large increase in the demand for hospital care and the initial budgets prepared by their governments proved to be gross underestimates of the actual expenditures required. Nevertheless, these costs had to be met or the services reduced below the level guaranteed by the plan.

In addition, the rapid increase in volume of services has created a major problem in areas where adequate hospital facilities and personnel were not available. Planning must go forward to provide these requirements or the introduction of an insurance system will cause a deterioration rather than an improvement in the over-all hospital service. One of the major difficulties in Great Britain and in the provinces which have introduced compulsory hospital insurance plans, has been the crowding of hospitals with chronically ill or completely disabled long-staying patients to the detriment of services for the acutely ill. Another has been the inability to expand the physical facilities rapidly enough to meet the demand. In addition, a great under-estimate of the operating costs has in some instances resulted in the allocation of funds meant for capital outlay in order to cover the deficit in operating costs, leaving no budget for future improvements or additions to the hospitals.

(1) Hospital Care in the United States, Commission on Hospital Care, Commonwealth Fund, 1947.

It is recommended, that the Government of the Province of Nova Scotia should not introduce a hospital insurance plan until general hospital facilities have been provided at least to the level suggested in Tables 18 to 26, nor until chronic disease hospitals and nursing homes are provided, as suggested in preceding sections. Moreover, trained personnel must be available to staff these additional institutions in much greater numbers than at present. However, it is recommended that plans be made to provide as soon as possible both the physical facilities and the trained personnel with a view to reaching the minimum standards necessary to institute a hospital insurance plan. These facilities will be needed to provide adequate service whether or not an insurance system is ever initiated. It is also believed that the difficulties in organizing a compulsory hospital insurance plan can be solved, but it is recommended that they be foreseen and worked out before the insurance system is started, not afterward.

During this period of development of the physical facilities and training of personnel, further intensive study should be directed toward the need for a complete or partial hospital insurance plan, and the method of paying for such, with a view to determining whether or not it can be soundly financed by this Province, and if so, by what methods. It is important not only to determine what portion of the total costs should be borne by the individual citizens and how these monies should be collected; but also what division should be made of the remaining costs between Federal, Provincial and Municipal Governments. It is believed that the figures which have been used in the past to estimate Dominion-Provincial shares of an expanded health insurance plan have been gross under-estimates. It is strongly recommended that the initial budgets for a government-sponsored insurance plan, if such is contemplated, be based upon up-to-date figures on unit costs, with adequate provision for future trends in these costs, and also upon the best available estimates of the probable volume of services. Most governments, which have introduced such an insurance plan, have not made even a close approximation of the true costs in their initial estimated budgets. They have then been faced with the embarrassment of budgeting for two, three or more times this amount in the following years, or, alternatively, they had to provide less effective services than were promised to the insured persons.

As an example of the possibilities of under-estimation, figures are quoted from the proposals made at the Dominion-Provincial Conference in 1945. Hospital insurance was only one item of this proposed program, but the under-estimation of costs for the whole program apply to this as well as to other component parts.

At the Dominion-Provincial Conference in 1945 proposals were made which were meant to put the provincial governments in a position to develop and administer a comprehensive health insurance program to be introduced by progressive stages. The first stage included general practitioner service, hospital care and diagnostic services.



Later stages included other medical services (consultant, specialist, surgical) nursing services, dental care, pharmaceuticals and laboratory services(1). The total average cost of all of these services was estimated at 250 million dollars or \$21.60 per capita. This was somewhat less than the figure of \$26.45 obtained from data collected by the Dominion Bureau of Statistics in 1935 on the annual cost of illness in Canada, divided by the total adult population over 16 years(2).

The proposed federal contributions towards the costs of such a plan were:

(i) A basic grant of one-fifth of the estimated cost of each service and

(ii) One-half of the additional actual cost incurred by each provincial government in providing each benefit, provided that the total federal contribution did not exceed 60 per cent of the cost of each service or a maximum of \$12.96 per person when the complete program was in operation. Federal aid for the first three years would be limited to the amounts estimated. These would be altered after each three years to conform with the average cost of each benefit.

These proposals are subject to several important criticisms:

(i) The probable costs were apparently estimated from surveys made in 1935 of the costs of illness - not the costs of services needed, but those provided. This was a depression year, and any figures on the volume of medical, nursing and hospital care would greatly under-estimate the actual needs.

(ii) The estimates did not take account of the tremendous increase in the costs from 1935 to 1945 and did not allow for adjustment of under-estimates until a period of three years would have elapsed. Between 1935 and 1945 hospital costs per patient-day had already more than doubled and by 1948 had trebled. In addition the volume of services had greatly expanded. Costs of other services had also risen.

(iii) The Federal contribution was fixed at \$12.96 or 60 per cent of \$21.60 per person. Hence, any miscalculations would be paid for in full by the provinces. This placed the Federal Government in a safe position to estimate its outlay for at least three years, but the provincial governments would have been less fortunate.

(1) Health Reference Book, Dominion Bureau of Statistics, 1948.

(2) Taylor, M. G. - The Saskatchewan Hospital Services Plan, pp - 71-72, 1949.

If these proposals had been accepted by the Province of Nova Scotia in 1945, and if it had been possible to initiate all phases of the health insurance program within the next three years the situation in 1948 would have been as follows:

For an estimated population of 635,000, a total budget of \$13,716,000 would have been available for all of the proposed health insurance programs. The share to be paid by the Federal Government would have been \$8,229,600, and that paid by the Provincial Government \$5,486,400 plus any deficits. If the province had been able to initiate only a hospital insurance program by 1948, the total budget for the purpose would have been \$2,921,000. This was based on a rate of \$4.60 per person per year(1). The Federal share of this would have been \$1,752,600.

Since there are no available figures to show the total costs for medical, dental, nursing, pharmaceutical and other services in this province for 1948, one cannot be certain how far the proposed budget of \$13,716,000 would have fallen below the actual costs. One can, however, obtain some impression by using various methods of estimating the cost of these services, and in the case of hospitalization accurate figures are available. A close estimate of the expenditures for general hospital care in Nova Scotia in 1948 was \$4,597,381. The proposed budget for the hospital insurance plan would have been sufficient to provide only 63.5 per cent of the services which were actually available in this province in 1948. Since these services were considerably below the desirable level, it is obvious that this budget would have fallen far short of the requirements to cover a compulsory hospital insurance plan. The Federal Government's contribution would have covered 38.1 per cent of this cost, rather than the estimated 60 per cent.

Several very valuable studies have been made in the United States on the incidence of illness, the extent of medical and other services, and the costs of various health programs. Some of these studies reported the volume of service received by the group under observation, and others attempted to estimate what services should have been provided under ideal circumstances. Falk and his associates(2) presented one such report on the volume of services received. Lee and Jones(3) attempted to estimate the volume of service required. Table 36 presents some of their data as quoted by Sinai(4), and compares their figures with those obtained during the present hospital survey.

- (1) Health Reference Book, - Dominion Bureau of Statistics, 1948.
- (2) Falk, I.S. Klem, M.C. and Sinai, N. - Incidence of Illness and the Receipt and Costs of Medical Care Among Representative Families, Chicago University, Press, 1933, (Committee on Costs of Medical Care, Publication No. 26)
- (3) Lee, R.I., Jones, L.W. - The Fundamentals of Good Medical Care- University of Chicago Press, 1933 (C.C.M.C. No. 22)
- (4) Sinai, N., Anderson, O.W., Morgan, H.I.-Introduction to Public Health Economics-Teaching Series No.1,1946,School of Public Health, University of Michigan.



TABLE 36

VOLUME OF HEALTH SERVICES

RATES PER 1000 PERSONS PER ANNUM

Types of Service	Services Required (Lee-Jones)	Services Received				
		Falk	Sask.Hosp.Services		Nova Scotia	
			1947	1948	Prov-ence 1948	Eastern Region 1948
Cases Hospitalized in General Hospitals	107	59	156	178	128.5	147.9
Days of Care in General Hospitals	1385	746	1565	1878	1120.1	2022.3
Home, Office and Clinic calls (physicians)	5650	2391				
Dental care (persons over 3 years)	1000	241				
Health examinations	942	82				
Immunizations	185	59				
Refractions or glasses	175	42				

More recently the experience of the Saskatchewan Hospital Services Plan (1) has been of great value, and data from this province are included for comparison.

It will be noted that the Nova Scotia figures relating to hospitalization are considerably higher than those reported by Falk and his associates. The Lee-Jones estimate of the number of cases requiring hospital care per thousand population had also been exceeded by 20 per cent in this province in 1948, although their estimate was supposed to be based on adequate service to cover all requirements. However, the modern trend toward shorter hospitalization made the number of days of hospital care in Nova Scotia lower than the Lee-Jones estimate. It is believed that the Eastern Region of Nova Scotia, with its longer experience under hospital insurance, probably provides a more accurate estimate of the volume of services under a government-sponsored hospital insurance plan. These figures exceed the Lee-Jones estimate of requirements by more than 40 per cent. It is probable that they would have been still higher under an insurance plan which provided complete coverage on a compulsory basis, instead of the 75 to 80 per cent coverage which now exists in that region. The experience of the Saskatchewan Plan would seem to confirm this view. The number of patients was greater in that province than in the Eastern Region of Nova Scotia. However, the hospitalization of a larger number of chronically ill in the latter region resulted in a higher average stay in hospital, and a larger rate of patient-days per 1000. In 1948 the average cost per patient-day in all Nova Scotia general hospitals, excluding tuberculosis units, was \$7.67. If this rate were applied to the Lee-Jones figure of 1385 patient-days per thousand, the total hospital cost would be estimated at \$6,745,000. If, on the other hand, the experience in the Eastern Region provides a better index of the number of patient-days per thousand population, the estimate of hospital costs would have been \$9,850,000. It is believed that the latter figure would not be an over-estimate of what a general hospital insurance system would cost within a few years after its inception in this province. The budget of \$2,921,000 based on the 1945 proposals would have covered only 29.7 per cent of these costs, and the Federal Government's share would have provided only 19.8 per cent, instead of the 60 per cent that the province was led to expect.

As further evidence that the proposed budget of \$2,921,000 would have been inadequate, it may be pointed out that the premium for Blue Cross Hospital Insurance is 85 cents a month or \$10.20 per year for a single person, when paid by payroll deduction. If this rate were applied to the population figures of Nova Scotia, it would provide a budget of \$6,477,000. It is recognized, of course, that the premium rate for a family is less than that quoted

(1) Taylor, M.G. - The Saskatchewan Hospital Services Plan, 1949.

above, but there are also some limitations on the benefits provided by this insurance plan and it is based on ward accommodation. Expenditures for all general hospitals might, therefore, be expected to exceed this estimate of \$6,477,000. Moreover, the costs per patient-day have continued to rise since 1948 and there is no indication that they have reached their peak. Even the maximum estimate of \$9,850,000 shown above, might therefore prove to be too small to meet the demands under a compulsory hospital insurance plan. Provision would have to be made for an expanding budget if the costs of operation continued to rise. Furthermore, it is emphasized that the estimates given above are based upon general hospital care only. They do not include hospitalization for the chronically ill or for patients with tuberculosis or mental diseases. A total hospital insurance coverage would, therefore, cost more than the largest estimates mentioned above, and would far exceed the amounts contemplated at the 1945 Dominion-Provincial Conference.

It is not intended that the above comments should be presented as argument against a hospital insurance plan, but rather an argument for recognizing how much this will cost and for sound planning to meet these expenditures. Although they would be large, they might not be prohibitive. It might be possible for the province of Nova Scotia to finance such a plan with assistance from the Federal government, and with a special system of taxation or collection of premiums for the majority of the population, who can afford to pay. A plan based upon a cost of \$15 per person would provide a budget of more than \$10,000,000. At the present level of demand for hospital services and at the present costs, this would probably be a minimum budget. If the Federal Government provided substantial assistance, say 60 per cent, the premium rate to cover the remainder would not be beyond the reach of most people in this province. It would be approximately 50 cents per person per month. With further assistance from the provincial government, even if no more than equal to the present grants for general hospitals, this could be reduced still more.

An honest presentation of the facts regarding the costs of such an insurance plan is most desirable. The initial budget must be adequate to provide not only for immediate needs, but for a greatly expanded service. Provision must also be made for further growth as the demand increases and the costs rise. It would be unfair to all concerned if this subject were presented in such a way that a provincial government would be committed to it, and would in turn commit its constituents to it, under the impression that the costs would be low. There might be little opportunity to withdraw when the truth became obvious that the costs might be anywhere from three to six times what had been expected. Nothing can be gained by disregarding the facts concerning the costs of such an insurance plan.

The above comments have dealt wholly with hospital insurance. The proposals made at the 1945 Dominion-Provincial Conference covered an all-inclusive health insurance program. As already stated, a total budget of \$13,716,000 would have been available in 1948 under this plan.

Although only rough estimates can be made, it is interesting to calculate what would have been the financial status of the province of Nova Scotia if these proposals had been adopted and if a complete health insurance program had been initiated within the three years 1945 to 1948.

Falk and his associates(1) reported that hospital services comprised 13 per cent of the total expenditures for health services. Physicians' services made up 39.8 per cent, dentistry 18.5 per cent, medicines 12.9 per cent, nursing 8.1 per cent and all other services 7.7 per cent. Costs of all of these services have risen since that study was made but it is not known whether the rise has been proportionate in all services. Hospitalization may now constitute a larger proportion of the total costs. Other studies have estimated that it may make up 15 to 18 per cent of the total expenditures.

As already stated the annual expenditures for general hospital care in Nova Scotia in 1948 were \$4,597,381. If this figure represented 13 per cent of the costs of all health services a total budget of \$35,364,469 per year would be required for a complete health insurance plan. The Federal Government's contribution under the 1945 proposals would have been \$8,229,600. This would have provided only 23.3 per cent of the total cost, instead of the 60 per cent which the Provincial Government would have expected to receive. The Province of Nova Scotia would have paid more than 27 million dollars as its share of a complete health insurance program in 1948 instead of the five and a half million dollars for which it would have budgeted under the 1945 proposals. Moreover, no increase in the Federal Government's allocation would have been made until a three year period had passed, that is, until 1949. It is doubtful whether the Nova Scotia Government could have afforded such an expensive three-year initiation into the financing of a health insurance plan. Some may suggest that the above statements exaggerate the total costs. This may be true if hospital costs constitute more than a 13 per cent proportion of the total expenditures. Unfortunately there are no accurate data available to indicate what proportion should be allocated for hospital services. However, if hospitalization costs 18 per cent of the total for all services, the estimated budget would still have been \$25,541,000, and the Federal contribution would have been only 32.2 per cent of the amount, instead of the 60 per cent which was - with reservations - promised.

It might also be pointed out that these estimates were based on the annual costs of operating general hospitals in Nova Scotia in 1948 under the present system. These expenditures would certainly have been greatly exceeded if that year had been the third one after the initiation of a hospital expansion program and the introduction of compulsory hospital insurance. Under such circumstances the total budget for an all inclusive health insurance plan might well

(1) Falk, et al - op. cit.

have been much more than the figure of thirty-seven millions.

It might also be emphasized that the two estimates quoted above on the costs of a health insurance program in Nova Scotia differ by \$10,000,000 depending upon whether hospital services comprise 13 or 18 per cent of the total costs of all health services. It is not known which of these figures should be used. In fact, it is not known whether either of them are applicable in Canada. The importance of obtaining further data by surveys and other methods can hardly be emphasized too strongly. Without such basic data we are courting financial disaster. It is suggested that the present national morbidity survey would provide useful data, and it might be wise to wait its results before making final plans. However, this does not mean that no action can be taken in the interval. Extension of physical facilities and training of personnel can proceed.

Other calculations have been made which indicate that the above-mentioned estimates of the costs of a health insurance program in Nova Scotia are not too high. In fact they may be too low. As already stated, the costs of hospitalization were estimated at \$6,745,000 using the Lee-Jones figure of 1385 patient-days per thousand population. If hospitalization constituted 13 to 18 per cent of a complete service, the annual health insurance budget of Nova Scotia would be estimated at 37 to 52 million dollars. If the 9,850,000 dollar estimate, based on the experience of the Eastern Region of Nova Scotia, were used, the total cost of a complete insurance program would lie between 55 and 75 millions per year. Costs may also be estimated from studies of the expenditures for professional medical services. Bradbury(1) estimated in 1937 that adequate medical care for an average family of four would cost \$170.96. Assuming that the population of Nova Scotia is grouped into 156,250 such families, the cost for professional services would be \$26,712,526. As already stated, Falk found that 39.8 per cent of the total costs were represented by professional charges. Based on these figures a total health insurance program of Nova Scotia would cost 67 millions per year.

It seems obvious from the above remarks that a total health insurance plan would cost a great deal more than would have been provided by the budget of \$13,716,000 based on the 1945 proposals. It is also obvious that there are a very few sound statistics upon which accurate estimates of the costs can be based. It would seem to be an extremely hazardous undertaking to embark upon a program whose budget might be anywhere between 13 million and 75 million dollars, depending upon which estimates one accepted. It would also seem highly desirable that the collection of such important data should precede the inauguration of any extensive insurance program under Government auspices. It is, therefore, recommended that the Province of Nova Scotia make no plans with respect to health insurance programs, apart from hospital insurance, until the

(1) Bradbury, S. - The Cost of Adequate Medical Care - University of Chicago Press, 1937.

data obtained from the proposed National Morbidity survey are available for careful and intensive study.

It is particularly important that both the public and the Government should be aware of the fact that costs of health insurance plans are likely to be very high. These are not necessarily arguments against the development of such programs. It is possible that the people of Nova Scotia are already expending amounts in this neighbourhood, if one could obtain accurate figures on the amounts spent, including the cost of drugs for self-medication as well as money spent for medical, nursing, hospital, dental, and other health services. If so, an insurance plan might spread the costs more evenly and improve the services. If, however, there is a need for an extension of hospital and medical services, money must be found to pay for them. Any attempt to spread the present services too widely without adequate provision for all necessary increases in physical facilities and personnel, and in money to pay for them, would undoubtedly lead to deterioration of the services.

Problems relating to the organization and administration of insurance plans will not be discussed. These are just as important as the financial problems, or perhaps more so. However, the financial situation must be clarified before the Provincial Government will be in a position even to consider whether any forms of health insurance could be undertaken. If it seems practicable and desirable, to undertake a system of compulsory hospital insurance, or a more extensive insurance to cover costs of medical, nursing, dental and other services, consideration can then be directed to the important problems of organization and administration. Many of these are of vital importance involving the relation of a government-financed insurance plan to the individuals and institutions providing the services. They will require careful and co-operative study on the part of all concerned if and when the financial soundness of health insurance plans are decided upon.



10. HOSPITALS FOR TUBERCULOSIS AND MENTAL DISEASES

In Nova Scotia the treatment of pulmonary tuberculosis is financed largely by the Provincial Government, which operates three sanatoria and provides financial assistance to one other tuberculosis hospital and to six tuberculosis units associated with general hospitals. Table 37 shows the location and capacity of these hospitals and units.

TABLE 37

TUBERCULOSIS HOSPITALS AND UNITS IN NOVA SCOTIA

Hospital	Location	Bed Capacity	Patients Cared for 1948	Patient Days
N. S. Sanitorium	Kentville	398	612	132,949
Halifax Tuberculosis	Halifax	135	285	41,531
Roseway	Shelburne	110	194	32,858
Point Edward	Sydney, Cape Breton	200	Opened 1949	
<u>Units</u>				
Glace Bay General	Glace Bay	48	111	13,339
Highland View	Amherst	17	47	4,967
St. Joseph's	Glace Bay	48	110	16,219
St. Martha's	Antigonish	60	115	14,721
St. Mary's	Inverness	10	28	2,437
Sydney City	Sydney	43	89	15,307
Total		869	1591	274,328



The Nova Scotia Sanitorium, established in 1904, is the oldest tuberculosis hospital in the province. It is situated on a large property just outside the town of Kentville. It consists of a group of pavilions, two centrally located infirmaries, and other buildings for staff, kitchen and dining services, recreation, library, etc. The pavilions are wooden two-storey buildings with sunporches, and vary in capacity from 28 to 57 beds. The old infirmary is also a wooden structure with a capacity of 90 beds. It was built in 1918 and has serious fire hazards. The new infirmary, built in 1932, is of cement and tile. It has a capacity of 94 beds, and houses also the x-ray department, laboratory, administrative offices and operating rooms.

This hospital is the chief center for the treatment of tuberculosis by major surgical methods. Members of its surgical staff also visit the other two provincial sanitoria on several occasions each year to do some major surgery. The hospital has a full-time medical staff of five and three part-time visiting specialists.

Plans are being made for the building of a 100-bed residence for nurses and other staff, and a new 200-bed infirmary. With these additions, and the removal of patients from the old infirmary, this hospital will have a very satisfactory set-up for the treatment of tuberculosis.

The Halifax Tuberculosis hospital is well-located in association with most of the other hospitals of the city in what might be called the "hospital center". It is a brick building. Part of it, constructed in 1921, contains 56 beds, the x-ray, surgical and administrative departments. A new addition, constructed in 1946, has a bed capacity of 69. As already described, this hospital receives a grant from the Provincial Government, but the major share of the cost is borne by the City of Halifax. The hospital serves only the city. In view of the large population in the suburbs and the town of Dartmouth, it would be preferable to have this hospital serve a larger area. The Tuberculosis Control Division of the City Health Department is also centered in the hospital, and its services might also be more effective if it covered the whole Metropolitan area. There is a full-time medical staff of three.

Roseway Hospital in Shelburne has a general hospital unit of 40 beds in addition to the tuberculosis unit of 110 beds. It is located in a large one-storey wooden building, which was constructed as a joint Navy and Army Hospital during World War II. Additional military buildings are used as staff residences. There is a full-time medical staff of two.

Point Edward Hospital was opened in 1949. It occupies a former Navy Hospital at Point Edward, about 16 miles from Sydney. The buildings are very satisfactory for use as a Tuberculosis Sanitorium. There is a full-time medical staff of two.

The Tuberculosis units are in annexes or wings connected with the six general hospitals mentioned in the preceding table. These buildings were constructed by the Provincial Government and ownership transferred to the local hospital board with the provision that the buildings be used

only for tuberculosis patients. As the facilities in the provincial hospitals have increased, the need for the smaller tuberculosis units has declined. Patients are also said to prefer the sanatoria. In these units there are no full-time medical staff members, but one of the practitioners of the general hospital staff is in charge of the tuberculosis treatment on a part-time basis.

Further details concerning the tuberculosis hospitals, and estimates of the future bed requirements are presented in the section on Tuberculosis Control of the Health Survey Report.

There is only one active treatment hospital for mental diseases in the province, the Nova Scotia Hospital at Woodside, near Dartmouth. This hospital has a capacity of 450 beds. There are also a number of county homes or hospitals to which the "harmless insane" may be committed. These do not have facilities for psychiatric or other forms of treatment. A description of the mental hospital set-up is contained in the section on Mental Hygiene of the Health Survey Report.

## II 10. GENERAL RECOMMENDATIONS

A study has been made of the chief recommendations of the Commission on Hospital Care in the United States(1) and those which appear applicable to the situation in Nova Scotia are presented below with comments:

### Patient-Service

(1) "General hospitals should provide the essential services necessary for adequate treatment of patients who are admitted for care".

A system of hospital grading and inspection should define, at least in general terms, what these requirements are, and make it the responsibility of the community or district hospital to transfer patients to regional hospitals if the essential services are not available for their care.

(2) "General hospitals should assume responsibility for continuously improving their service through the addition of more efficient equipment and the adoption of those newly developed techniques whose value has been established, to the end that the most effective and comprehensive service possible will be assured all patients".

It is also proposed that an integrated hospital program in Nova Scotia should provide the smaller district and community hospitals with visiting consultants from the provincial or regional hospitals at regular intervals to assist in the introduction of new techniques and in the solution of other problems.

It is recommended that financial assistance should be given to assist a hospital in the costs of major equipment, and in modernization of old buildings and equipment, as well as in the capital costs of new buildings, as now provided under the Federal and Provincial Hospital Construction Grants. However, in smaller hospitals assistance should not be provided for installation of expensive equipment for x-ray, major surgery, physiotherapy, etc., unless there is a sufficient volume of work to warrant it, and qualified personnel to provide the service.

(3) "General hospitals, whenever practicable, should provide for the care of communicable diseases and certain types of cases of tuberculosis, nervous and mental diseases, chronic diseases and convalescent patients, as well as for acute illness and injuries".

(1) Hospital Care in the United States, The Commonwealth Fund, 1947

In some instances special hospitals are desirable, but in most of Nova Scotia the general hospitals should be equipped to deal with all types of cases because the volume of work in any special field is too small to warrant the maintenance of a separate institution.

Provision for the care of communicable diseases is very inadequate in most Nova Scotia Hospitals. None of the 10 community hospitals have any facilities for such patients; 4 of the 16 hospitals with 20 to 49 beds have a total of only 6 beds in separate communicable disease units. The remaining 12 hospitals have none. 1 of the 5 hospitals of 50 to 99 beds has a 2-bed communicable disease unit. The rest have none. Only 2 of the 6 hospitals of over 100 beds have provision for such cases. A total of 7 hospitals have 18 beds for communicable diseases; thirty hospitals have none. The Halifax Infectious Disease Hospital is the only special institution for this type of case. Its bed capacity is almost sufficient for the whole mainland portion of the province at the rate of 1 bed per 10,000 population. However, it would be preferable to have a separate unit in at least each of the regional hospitals to avoid movement of patients for long distances, and to use the Halifax Hospital for other purposes. The facilities for the control of communicable diseases in children's wards and pediatric hospitals in this province are particularly poor, and many members both of the medical and nursing staff also require education in modern communicable disease techniques. Infection of an ill child with a second disease while in hospital should not be permitted to occur, but it does.

Provision for the care of nervous and mental disease in general hospitals are almost non-existent except in the Victoria General. Facilities for these patients and for chronic and convalescent patients should be provided in separate sections of a general hospital. It is not recommended that the patients be mixed indiscriminately, but separated according to services, as medicine, surgery and obstetrics now are.

It is recommended that every regional hospital have special facilities for the care of patients with communicable diseases, (including tuberculosis), nervous and mental diseases, chronic diseases and convalescents. It is also recommended that at least one isolation room be available in each district and community hospital, and that this be one item of the minimum facilities required to qualify for a per diem grant.

(4) "An integrated program should be established between general hospitals, tuberculosis sanatoria, nervous and mental disease hospitals and institutions for chronic and convalescent patients to the end that the scientific equipment and professional personnel in the general hospital may be used to assist in the treatment of patients in those institutions".

It is worth pointing out that the advantages of this co-operation work both ways in Nova Scotia and the general hospital gains as much as it gives in such an integrated system. It is also worth

noting that co-operation has been very close in the past. Many hospitals make use of consultant and radiological services in the nearest Tuberculosis Sanitorium, and these hospitals employ specialists in other fields as required. Insofar as possible it is recommended that new institutions for chronic and convalescent patients and for mental diseases be constructed as sections or wings of general hospitals, not as separate buildings. This will tend to avoid a deterioration in the services of such institutions and will provide a staff with a wider range of interests and training.

Most of the tuberculosis hospitals in the province are now separate, but as much integration of services and staff as possible should be employed between them and the nearest general hospitals. Facilities should also be available in the general hospitals for the care of a case of pulmonary tuberculosis until admission to a sanatorium can be arranged, and for the medical or surgical treatment of other inter-current diseases developed by a patient with tuberculosis or other communicable diseases, which can best be cared for in a general hospital. The use of general operation rooms for surgery on a patient with open tuberculosis is no more dangerous than for those with streptococcal infections, probably much less. Both the medical and nursing staff of any general hospital should have sufficient training in communicable disease technique, to handle such problems. A unit should be available for such patients until transfer to a sanatorium if possible.

(5) "General hospitals should coordinate their efforts with those of other community agencies concerned with the prevention and treatment of disease and, when conditions permit, the general hospital should serve as the focal point through which the health service of the community is integrated".

This is a recommendation which, if fully implemented, would result in a great advance in the service of hospitals to their communities and a great advance in preventive medicine. It is most regrettable that ten community hospitals have been constructed within the last five years with facilities only for the care of the sick. These should be community health and medical care centers, with the office of the public health nurse located here, offices of the doctor and dentist, and clinic facilities for a fully integrated program of both curative and preventive medicine.

It is recommended that every new general hospital provide space for preventive services including out-patient clinics for immunizations, pre-natal care, well-baby clinics, etc. and where local conditions permit, provide also for the offices, and examining rooms of physicians and dentists. The separation of clinical and preventive services has gone too far in recent years and the time is ripe for an integration of these services, giving back to the general practitioner and clinical specialist a greater responsibility for prevention of illness.

In addition, both the requirements of economy and improved quality of service require group practice of several physicians, and the ideal physical arrangement would be to have offices located in the hospital building or an annex or wing of it, where equipment, technical services and consultation services would be readily available. Authorities responsible for construction of the new cottage hospital at Sheet Harbor with this modern set-up are to be highly commended.

The hospital was once regarded as an institution to which the sick were removed to die. That attitude has fortunately been out-grown. The presently accepted attitude that a hospital is solely for the care of the sick is also out-moded. The services must be expanded to provide for the potentially ill and the well person, in the same manner as the scope of practice of the family physician is expanding. There are sound economic as well as medical and social reasons for expanding the out-patient and group practice facilities of the hospitals. Costs of in-patient care are becoming so high that it is increasingly important to provide for the care of as many patients as possible on an out-patient basis. The recent successful experiment with "day patient" services in psychiatric hospitals are a similar development in the field of mental hospital care.

(6) "Hospitals should participate in community-wide educational programs; thereby assisting the public to obtain a full understanding to the importance and methods of maintaining a high level of health".

An unusual opportunity for health education in respect to personal hygiene, nutrition and many other aspects of health are missed by hospital personnel whose attention is focussed solely on the immediate problems of the ill patient.

#### Organization of Service - The managing Board

(7) "The Boards of Management of voluntary hospitals should be composed of members who are broadly representative of the public".

This practice is followed in most voluntary hospitals in Nova Scotia, although a few are, in effect, self-perpetuating organizations.

(8) "Hospitals operated by provincial, county or municipal governmental units should be conducted under the supervision of or have the advice and counsel of boards broadly representative of the public".

In Nova Scotia 18 general hospitals are owned by voluntary organizations in the community or district, 8 by local government bodies (city, town or municipality), 9 by church organizations or orders, 3 by associations of industrial workers and 2 by the provincial government.



In 1948 seven of the hospitals owned by the local voluntary organizations and one of the church-owned hospitals were operated by the Nova Scotia Division of the Red Cross Society. Since that time 5 other hospitals have been opened under management of this organization.

The provincial government hospital at Halifax has a Board of Trustees named by the Government but selected from non-governmental personnel. Roseway Hospital at Shelburne has an advisory board but management is under the Department of Health. These provincial hospitals, therefore, conform to the above recommendations.

The eight towns or cities which operate general or special hospitals have a Board appointed by the town council largely from its own membership. A few also have one citizen appointed by the mayor, but the Board is composed almost wholly of town councillors. It is said that this type of Board takes more interest in the hospital finances than in the quality of service. Changes of board membership are frequent and make it difficult for the members to obtain much knowledge of the principles of hospital operation during their term of office. In addition, the other extensive calls upon their time in operation of the town government limit the attention which they can give to hospital planning and supervision. Several hospital superintendents and other interested persons also reported a marked decrease in the interest of voluntary agencies and of the community as a whole when voluntary hospitals were transferred to the management of the local government. Under these circumstances the town council has a right to retain control of financial matters relating to the hospital, but it would seem preferable to have an advisory board representative of the interested citizens of the town, and perhaps also the surrounding communities, to maintain general oversight of the hospital administration and policy, and to foster good public relations. Financial matters could still be subject to approval of a committee of the town council. Appointment of the whole Board or most of it from the Town Council is not recommended. A broadened base of authority and responsibility would go far toward awakening public interest and participation.

(9) "Church organizations should appoint boards of representative citizens to advise the over-all management authorities and the hospital administrator concerning the needs of the community and to assist in the development of public relations".

Most church hospitals in Nova Scotia have such a board, and the administrative authorities report favorably on the improvement in public relations and in hospital service to the community.

#### Organization of Service - The Administrator

(1) "Full authority and responsibility for the administration of the hospital should be vested in a single administrative officer in each hospital".



Nominally this is the practice in Nova Scotia hospitals, but in fact there are a few where the Board of Management and its various committees exercise an undesirable degree of day-to-day supervision over the details of administration and operation. Instead of determining policy, arranging finances, and maintaining supervision over the administration within certain general terms of reference, they interfere in detailed management and personnel problems. One hospital, where this condition was particularly obvious at the time of the survey, did not appear to have benefited from such an arrangement. Hospital administration has become a highly specialized field of endeavor, and the administrators' day-to-day activities should be subject only to policy decisions and general supervision by the Board. Constant detailed inspection, supervision or participation in routine duties frequently make for less rather than greater efficiency in the hospital".

(11) "In the selection of the chief executive, emphasis should be placed upon his particular qualifications for the position".

In Nova Scotia the two general hospitals of the provincial government (one associated with a Tuberculosis Sanitorium) have medical administrators. Two others had, at the time of survey, a male administrative officer, one qualified in hospital administration. Most of the church hospitals had nurses as superintendents who were also trained in hospital administration. The remaining hospitals had a registered nurse as superintendent, many of whom had had considerable practical experience but no formal training in hospital administration.

The position of administrator in a hospital is no longer one that can be filled by an untrained, inexperienced individual. Likewise, an executive from another field, or a person trained in the professions of medicine or nursing, cannot occupy the post satisfactorily until full knowledge of the functions and complexities of the organization has been gained.

There appears to be a need for more trained hospital administrators particularly in the larger regional hospitals in Nova Scotia, and there is a definite place for frequent "work-shops" or "refresher courses" for the superintendents of the smaller hospitals. One such course was organized in 1948 by the Maritime Hospital Association in co-operation with the Victoria General Hospital.

#### Organization For Service - Medical Staff

(12) "There should be a formal medical staff organization in all hospitals".

This is the practice in 25 of the 30 general hospitals with more than 20 beds. The cottage hospitals usually have no more than two medical staff members and have no formal organization. The activity

of the medical staff in improving the hospital services varies considerably from hospital to hospital. Some are very active, and a few have only a nominal organization which meets only at rare intervals. Most of the 25 have monthly meetings and a few weekly. The quality of hospital care is dependent upon the competence and effectiveness of those members of the medical profession who work in the institution. A formal organization of the medical staff is considered an essential requirement for the maintenance and conduct of efficient professional service in a hospital. A unified co-operative staff can as a unit accomplish more than the individual members each working as an individualist.

(13) "The medical staff should prescribe and enforce standards for membership".

This is only a nominal procedure in a considerable number of hospitals in Nova Scotia and every practitioner in the area is admitted to the staff. Twelve of the 30 hospitals of more than 20 beds are said to have an "open" staff although nine of these have provision in their by-laws requiring approval by the medical staff and Board. If, as is usually the case, the new practitioner is a graduate of a recognized university, has a license to practice in the province, and his record as a practitioner is acceptable, it is desirable that he should be accepted as a staff member of the community and district hospitals with a minimum of "red-tape". However, it is recommended that he be appointed only on a provisional associate basis. His technical and professional ability and judgement should be proven acceptable to the rest of the medical staff before he be allowed to do major work without supervision. This probationary period should be at least one year in all cases, and unless the associate has had post-graduate training in one of the specialties, it should be at least 3 years before he be permitted the privilege of doing major surgery or operative obstetrics, except with the assistance of a senior member who is experienced in this field. Similar supervision of his major medical cases should be required with the assistance of a senior physician. These regulations should be more strictly enforced than at present in many hospitals where they are nominally "on the books" already. It is undoubtedly the responsibility of the medical staff to advise the Board concerning medical staff appointments and other standards of conduct. It is not an easy responsibility and may involve difficult and unpopular decisions. However, the medical staff would certainly not wish to allocate this responsibility to any other group or individual and the alternative is to exercise the responsibility without fear or favor.

(14) "The medical staff should adopt rules and regulations governing the conduct of professional service".

Ten of the 30 hospitals with more than 20 beds have no written constitution or by-laws. Twenty have adopted the standards proposed by the American College of Surgeons or of similar type, but a few of these need revision because they are out-dated.

It is fully recognized that matters pertaining to the quality of professional service are delicate subjects, and ones in which the medical members of hospital staffs would not wish to see any "outside interference". If a system of government inspection were instituted as a part of a hospital grading system or an integrated hospital program, or as a part of the operation of a tax-supported compulsory hospital insurance program, it is recommended that insofar as possible, matters of professional conduct and quality of service be left in the hands of the medical staff of the hospitals, but it is also recommended that they be given assistance, advice and supervision by an active committee of clinicians from the regional and provincial medical centers, and the Provincial Medical Society. It is believed that an active committee of this nature, serving also in an advisory capacity to the Director of the Hospital Division of the Department of Health, would do much toward improving the quality of hospital services. This medical committee might be a separate body or a part of a Provincial Advisory Council which would advise the Director and would include other non-medical members.

(15) "The medical staff should maintain vigilant supervision and continuing evaluation of the quality of medical care in the hospitals".

Several hospitals provide an outline of monthly statistics for consideration of the medical staff at its regular meetings. A review of serious cases and of all deaths occurring within the month also provide a useful method of evaluation. However, this must be more than a mere formality if it is to have any value. It is suggested that an annual review of the frequency of certain types of surgical and other therapeutic procedures and comparison with generally accepted average "standards" or with hospitals of similar size in the province might also be revealing. This method is little used at present. For example, two general hospitals of similar size in Nova Scotia had stillbirth rates of 9.7 and 31.4 per thousand births in 1948. The high rate in the second hospital should stimulate the medical staff to investigate the reasons. Similarly in 1948 one regional hospital had 39 Caesarian sections in 774 births while the chief provincial maternity hospital had 39 in 1969 births. An occurrence of a major operative procedure more than twice as often in one hospital than another should be worthy of consideration by the medical staff.

(16) "Definite liaison arrangements should be made among the managing board, the administrator, and the medical staff for the discussion of professional affairs and the establishment of administrative and professional relationships".

In Nova Scotia this is done in various ways. Some medical staffs have a representative appointed to the Board, others have a liaison committee to the Board and administrator. A few have no formal arrangement by which the medical staff can voice its opinion at the policy making level. On the other hand, a few hospitals have a member of the medical staff as President of the Board.

This may be advantageous in some respects, but it makes for difficulty if there is any difference of opinion between the administrator and the medical staff. A liaison Committee seems the most satisfactory set-up.

The aim of professional standards should be to provide a system under which competent physicians should not be excluded from practice in individual hospitals, particularly when one institution serves the entire community. However, developments in the special fields of medicine and surgery preclude the individual physician's competence in all fields. Limitations of professional activity should, therefore, be within fields in which the staff member has no special training or experience. Restriction of service in this manner, or supervision and training of junior staff members by the seniors, is essential to the maintenance of a high standard of service in the hospital and is in the best interests of the patient, and in the long view of the physician also. It is recommended that such restriction and supervision be one of the standards required of all grades of hospitals in Nova Scotia to qualify for Provincial Government aid, and that the day-to-day administration of this supervision be the responsibility of the medical staff.

#### Organization for Service - Dental Staff

(17) "A dental service should be established whenever competent dentists are available and willing to practice in the hospital".

Hospitals for chronic diseases, tuberculosis and mental diseases should have a system for providing dental care for long-term patients. This may be done on a fee-for-service basis for those who can pay, but the hospital should provide the service free for those who cannot afford it.

(18) "Dental examinations, directed toward the discovery and diagnosis of dental and oral infections which may be related to systemic disease, should be made of all patients admitted to general hospitals except when the physician in charge pronounces this procedure unnecessary or impractical".

It would be difficult to provide a complete service for dental treatment for all general hospitals in Nova Scotia within the near future because of the shortage of dentists, and it is not considered desirable since most acutely ill patients should not be subjected to additional treatment procedures. However, the regional and provincial hospitals and as many district hospitals as possible, should have a dental consultation service, which may be expanded to include the routine check of all admissions as personnel become available. A dental examination may be an essential part of a complete physical investigation in many instances, and a hospital should at least provide this minimum.

Because of the difficulty of obtaining full-time dental services in a limited field such as school dentistry, it is recommended that hospital dental services and school dental services be integrated. Dentists would then devote their time to children's dental services in the spring and summer months when travel is easiest, and would serve in the chronic disease hospitals, tuberculosis hospitals, etc., during the winter months, where they would have experience in a wider range of procedures.

(19) "The dental service in a hospital should include ordinary posthetic dental procedures only when patients are in long residence. Its primary objective should be the elimination of dental infections, especially those bearing a relation to systemic disease. The surgical measures that are undertaken should be limited to those procedures upon which surgical and dental staffs agree".

(20) "The chief of the dental service preferably should be a person trained in general surgical techniques and competent as an oral surgeon. The service should be so organized and controlled that only members of the staff who are of proven competence are permitted to perform surgical procedures".

#### Organization of Service - Personnel Policies

Policies with respect to personnel vary greatly from hospital to hospital. Some have no settled policy on salary scales, duties, administrative responsibilities, etc. It is emphasized by modern authorities that definite personnel policies play an important part in administrative efficiency and staff relations and, therefore, have much to do with improved service within the hospital. It is suggested that the following rules form the basis of a hospital's personnel policies. The adoption of standard personnel practices, preferably in written form, and with the knowledge of the employees tends towards more efficient administration, a smaller turn-over of staff and improved calibre of service.

(21) "Qualified personnel should be selected by classification of the jobs to be performed, and appointment should be made on the basis of the individual's ability to perform the tasks involved. In the selection of qualified personnel, co-operation should be developed with the various professional, counselling and placement agencies in the community".

(22) "The duties and responsibilities of each employee should be clearly defined. Conditions of employment should be formulated and made known to the members of the staff.

(23) "Working relationships should be set up between the professional, administrative, and other departments of the institution".



(24) "A continuous program of orientation and in-service education should be maintained".

(25) "Adequate supervision and measures for evaluating individual and departmental performance should be provided".

(26) "Acceptable working and living conditions should be maintained. Hours, salaries, vacations, and leaves of absence should be established in accordance with accepted standards in the community".

(27) "Personal advancement should be encouraged by opportunities for further study and experience".

(28) "An effective system of records and reports covering employee performance should be maintained".

(29) "The professional, technical, and service staffs of the hospital should be organized in such manner as to ensure sufficient and competent care of all patients".

(30) "Authority and responsibility for the conduct of the institution should be centralized in the administrator of the hospital with a direct line of authority from the administrator through the directors of various professional and non-professional services to the members of the staffs of those departments".

(31) "Authority commensurate with the responsibility vested in their positions should be delegated to heads of departments, and official channels of communication should be established between the central authority and the department heads, between the various departments, and within the departments themselves".

(32) "The ethical responsibility of the professional and service staffs should be defined in relation to the institution, the patient, and the medical profession".

(33) "Professional and social relationships should be fostered between the staff and community organizations and facilities".

(34) "Policies should be established for promotion and transfer of employees".

Under an integrated hospital plan this should eventually be developed into a system by which highly qualified or promising employees could transfer to posts of greater authority and opportunity in larger hospitals. This is an obvious advantage which the hospitals operated by religious orders now have over the independent hospitals. A promising worker can be promoted not only within one hospital but within the group of hospitals.

(35) 'An adequate health service should be maintained for all employees".

Preventive medical service for the staffs of Nova Scotia hospitals could stand some improvement. The hospitals should set a good example to their communities in this regard. Student nurses are better cared for in this respect than any other category of hospital personnel, but even they are subjected to unnecessary risk in some institutions.

Of 14 hospitals with schools of nursing 11 require a physical examination on admission to training; 14 require a chest x-ray on admission; 4 require an annual physical examination; 4 require chest x-rays at 3 months interval, 6 at 6 months interval, 3 at yearly intervals and one "as required"; 8 have a serological test for syphilis made on admission; 13 require immunization against smallpox and diphtheria, 10 against scarlet fever, 12 against typhoid, 4 against tuberculosis; 12 require tuberculin tests. All give free hospital and medical care for a student nurse who becomes ill.

Services of a preventive nature are much less common for the graduate nurse. Of 27 hospitals with more than 20 beds, 23 have chest x-rays on their graduate nurses on appointment. Only 2 have periodic x-rays at 3 months interval, 13 have them every 6 months, and 8 only once a year. Graduate nurses have no routine re-checks for immunity or re-immunizations in any of the hospitals. Immunity conferred by the procedures carried out at the time of admission to training is not permanent, and routine booster doses, Schick tests, tuberculin tests, etc. should be a part of the protective program. Auxiliary nursing personnel have chest x-rays on appointment in 20 hospitals and routine re-checks in 19, but no immunizations. Kitchen staff and other helpers have chest x-rays on appointment and at regular intervals in 22 of the 27 hospitals, but no other protective procedures. Food handlers are checked for typhoid carriers in only one single hospital. There are also three hospitals which use unpasteurized milk or cream.

Reports indicate a high incidence of tuberculosis in student nurses in general hospitals.(1) These result from contact with undiagnosed cases or from lack of care in handling known cases. Routine x-ray of all patients admitted to general hospitals, and training of all nurses in communicable disease technique are as important a part of the preventive service as routine x-rays, immunizations, etc. of the nurses themselves. Only 8 hospitals have routine chest x-rays of most patients admitted, and 8 nursing schools have affiliate or other training in tuberculosis or acute communicable diseases.

(1) "Hazards of Tuberculosis in the General Hospital" - Stewart, C.B. and Beckwith, C.J.W. - Can. J. Public Health, Dec. 1949.



In addition other hospital personnel who have contact with patients or articles contaminated by them require the same preventive services for their protection as the nurses. Preventive procedures for the protection of the hospital community from infection by other staff members should also be employed, such as examination of food handlers.

Preventive medicine is too big a service and too important to be left, as it has been in most institutions, with no responsible person in charge. At least the provincial and regional hospitals should have an active staff member responsible for preventive services with adequate assistance from the nursing and record departments to maintain constant control over the situation.

#### Education- Hospital Administration

(36) "Administrative internships should be developed in well-organized hospitals which offer broad programs of service and should be conducted under the immediate direction of competent administrators".

Such training can be arranged at the Victoria General Hospital at present but is not made use of to any great degree.

(37) "Boards of trustees should afford opportunities to the administrator and also to his assistants and department heads through which they can improve their qualifications for the positions they occupy".

Action has already been taken by the Maritime Hospital Association to develop such a program of training, as has already been mentioned. However, it is believed that a period of training lasting longer than these short courses would be desirable.

#### Education - Medicine

(38) "Affiliations should be established between medical colleges and hospitals which would provide for the establishment of educational programs for residents in the latter. Such programs should be supervised by appropriate members of the sponsoring medical schools".

Undergraduate internships are now provided in some hospitals through affiliation with the Victoria General Hospital or the St. John General Hospital in their rotation of Fifth Year students of Dalhousie University. During the survey authorities of other hospitals expressed a keen desire to participate in this program. However, the reason most frequently given was the desire to use the interne to keep up the clinical records of the institution. This activity is not recognized today as sufficient training for a physician. The hospitals must provide a well-planned and broad training program for the student in return for receiving certain services. Unlike many other Universities in Canada and the U.S.A.

Dalhousie retains control of the final year internship, and will not permit a student to qualify in non-approved hospitals. Resident education is at present largely under the supervision and administration of the hospitals which are qualified to give post-graduate training in the specialties. These hospitals are the Victoria General, Halifax Tuberculosis, Children's Hospital, and Grace Maternity Hospital, all located in Halifax. In order to integrate these programs and to provide for the costs of such education it is recommended that they be consolidated into a single post-graduate medical program under the University.

It is recommended that Regional Hospitals in an integrated hospital plan be included in the rotation of fifth year internes of Dalhousie University, as their training facilities reach an approved standard, and that the heads of services of these affiliated teaching hospitals receive formal appointment to the staff of the University. In addition a system should be worked out by which senior clinical teachers from the University - affiliated hospitals in Halifax would visit the regional - affiliated hospitals at regular intervals of not less than 2 months, to participate in the clinical teaching program and serve as consultant to the director of the appropriate service in the regional hospital. Where possible this service should be extended to the district hospitals, which should in any event have a similar service available from the regional hospital. Such a service would do much to raise the level of practice throughout the province and would be well-worth the financial outlay involved. Specialists undertaking such out-of-town work should receive commensurate financial recompense.

(39) "Regular medical staff conferences should be held in all hospitals. Attendance of staff members should be required. Conference programs of varied content should be carefully planned. They should regularly include a careful and critical audit of the medical work in the institutions". The importance of this has already been emphasized.

(40) "Arrangements should be made between groups of hospitals for the conduct of conferences and educational programs for the benefit of those staff members who represent the special fields in medicine".

This could be arranged on a regional basis, and should be one of the responsibilities of a Regional Committee- which will be discussed in a later section.

(41) "The faculties of medical colleges should be augmented so that they can provide consultants and instructors who would be available to the staffs of hospitals, particularly in the smaller communities and rural areas, for the conduct of clinics and the informal discussion of professional affairs".

Dalhousie University has the only Faculty of Medicine in this province and in the Maritimes. This Faculty now receives considerable assistance from Governments of the four provinces, but the amount is much less than the total cost of operation of the Faculty and is on an

insecure year-to-year basis. The support of the Medical and Dental Faculties of this University on an adequate and permanent basis is a basic requirement in the provision of training professional personnel in this area.

(42) "The medical colleges should conduct at frequent intervals short review or refresher courses in general medicine and surgery as well as in the special fields".

The Dalhousie Refresher Course has been conducted annually for some years and serves a useful function in this regard.

(43) "Rural physicians and nurses should also be encouraged and helped financially to take "sabbatical leaves" for purposes of post-graduate education and resident experience in larger hospitals".

The present Professional Training Grant is utterly inadequate to provide such assistance, but should be expanded to do so.

#### Education - Dentistry

(44) "Dental internships and residencies should be established in large hospitals in which adequate educational programs can be developed under competent guidance and supervision".

It is recommended that a system of graduate internships be provided in the combined School and Institutional Dental Service as they are developed. Undergraduate training facilities in the clinical years should also include experience in dealing with dental problems of ill patients in hospitals.

#### Education, Technical Staff

(45) "Hospitals which have facilities for training technical personnel and which can meet the prescribed standards for the various special training programs should establish and conduct such educational courses".

Courses for x-ray technicians are now being given in six of the eight hospitals, where there is a radiologist. Five Hospitals and the Provincial Pathology Laboratory also train laboratory technicians. A total of 18 laboratory technicians and 15 x-ray technicians were in training in 1948.

#### Education - Service Staff

(46) "Hospitals should conduct in-service training programs for their service staffs, including instruction concerning methods for

performing specific assignments, philosophy of hospital objectives, hospital ethics, relationships between employees and patients, and opportunities for promotion".

This is as important as the training of the professional and technical personnel if a hospital is to be efficiently operated and provide the best service. A careless, disinterested or ill-natured telephone operator, elevator boy or floor maid may do much harm to the reputation and public relations of a hospital.

### Research

(47) "Fundamental scientific research should be promoted in the hospitals associated with medical schools and in such others as have competent scientists and facilities available".

(48) "The medical staffs of all hospitals should be urged to contribute to the advancement of medical knowledge and the improvement of hospital service through clinical studies and investigation".

A great deal of clinical research could be done in the regional and provincial hospital centers, but it requires some stimulation and supervision from the University group on the staff of the provincial medical center. It would be hoped that some of the advantages of an integration of hospital services would accrue in this field.

### THE ROLE OF THE GENERAL HOSPITAL IN THE CARE OF ALL TYPES OF ILLNESS; ACUTE COMMUNICABLE DISEASES

(49) "Governing boards and hospital administrators should provide the necessary facilities and organize the service of general hospital so that proper provisions can be made for the care and treatment of communicable disease".

As already stated, units for communicable diseases should be available in all regional hospitals in the ratio of 1 bed per 10,000 population. This would require the following set-up based on 1961 population estimates. (Table 38)

TABLE 38

Bed Requirements for Communicable Diseases

Region	No. of beds	Region	No. of beds
Atlantic	16	Cumberland	4
Southern	5	Pictou	4
Western	5	Eastern	3
Funday	8	Cape Breton	18
Cobequid	5		
		Total	68

This should include one bed in each district or community hospital to isolate a suspected case, particularly a child, and the remainder at the regional hospitals.

(50) "Hospitals should conduct educational programs designed to show the advantages of caring for communicable disease in the general hospital and to achieve public acceptance of such a procedure".

(51) "Special contagious disease hospitals now operated by counties, cities, and villages either should be discontinued or their functions should be expanded to include the care of other types of illness".

The only hospital of this type is located in Halifax. It is recommended that it be taken over to expand the tuberculosis hospital, and communicable disease units of 16 beds be placed in the new addition to the Victoria General Hospital and the Halifax Infirmary.

(52) "All general hospitals should provide facilities and should admit for treatment patients afflicted with anterior poliomyelitis in the acute stages of the illness. Special hospitals for the care of these patients should not be constructed".

Poliomyelitis attracts a great deal of attention today, perhaps more than its relative importance as a health problem would warrant. Public interest has created pressure for construction of special hospitals. However, no single community has enough poliomyelitis patients to warrant the continuous maintenance of a trained staff and expensive equipment. One such treatment center is certainly sufficient for the province of Nova Scotia, and even it would be better and more economically operated in association with a hospital for other acute communicable diseases or with a general hospital. This would avoid unnecessary waste of beds between the relatively infrequent epidemics. The modern concept of treatment of this disease places chief emphasis on early and adequate physical therapy by trained personnel. The use of heat treatment in the

early stages makes physical therapy possible at an earlier date and relieves the patient's discomfort. Both of these features make it desirable to have patients in a central clinic where trained personnel are available. However, two other features of equal importance must be borne in mind, poliomyelitis is an acute communicable disease, and the transfer of patients for long distances, unless under careful precautions, aids the dissemination of the infection. It has also been shown fairly conclusively that any additional stress, such as exertion, cold, other infections and possibly excitement and worry result in more extensive and more severe paralysis. In addition, persons suspected of developing poliomyelitis may be admitted to a special clinic for diagnosis, and may prove to have other acute communicable diseases. Cross-infections are a serious risk since they not only add a second illness to the existing poliomyelitis, but may increase the degree of involvement of the central nervous system.

Considering all these factors it is recommended that the communicable disease unit at the regional hospitals should be employed for care of acute cases of poliomyelitis. The nursing staff could be trained in each center in the special care of such patients during the acute phase of their illness and the same precautions would be used as for other acute communicable diseases.

As adequate physiotherapy departments become available in these regional hospitals, which will have a chronic disease wing, the poliomyelitis cases can be cared for completely in the regional centers. Until that time the central clinic at the Victoria General Hospital should be used as the treatment center following the acute phase, but patients should not be transferred from the regional hospital until this phase has passed. Movement of patients acutely ill with poliomyelitis to a central provincial clinic is not to be recommended.

#### Pulmonary Tuberculosis

(53) "Routine radiological chest examinations should be provided for all patients admitted to and for all personnel employed in all hospitals".

Thirteen per cent of the total population are hospitalized each year in Nova Scotia. Past experience has shown that the incidence of tuberculosis is at least 4 times as high in hospital patients as in mass surveys of the apparently normal population. The x-ray of all hospital admissions is, therefore, a more fruitful case-finding procedure than mass radiography or photofluorography of the population by mobile x-ray units.

In Nova Scotia in 1948, there were 79,492 hospital admissions. It is not known what number were adults, but it constituted a large



proportion; 69,917 were admitted to hospitals of over 20 beds most of which have x-ray equipment. It is recommended that a program of chest x-rays for all admissions to these hospitals be included in the tuberculosis control program. This matter will be discussed further in the report on Tuberculosis Control.

(54) "General hospitals should admit patients afflicted with pulmonary tuberculosis and establish proper isolation, nursing and other techniques in order to protect personnel and other patients against infection".

This matter has already been discussed. Opposition to the admission of tuberculosis and poliomyelitis into general hospitals is still strong, although the same hospitals accept patients with meningococcal meningitis, typhoid, streptococcal infections and other communicable diseases. An adequate isolation unit in each regional hospital and training of staff in proper technique will help break down this objection. Provision for tuberculosis would be only on a temporary basis during treatment for an inter-current condition or until a newly diagnosed infectious case could be admitted to hospital.

(55) "Surgical procedures in the treatment of tuberculosis should be performed only in those tuberculosis sanatoria that are equipped with adequate operating rooms and auxiliary services and in which competent professional personnel are available".

In Nova Scotia this problem is handled by transferring most tuberculosis patients requiring surgery to the Provincial Sanatorium at Kentville. A surgical team from Kentville also visits the other two provincial tuberculosis hospitals to do chest surgery at regular intervals.

(56) "Surgery should not be attempted in tuberculosis sanatoria of 100 beds or less. This service should be available in the nearest large general hospitals".

(57) "Those general hospitals having staff members qualified to perform chest surgery should affiliate with tuberculosis sanatoria or establish special tuberculosis service".

(58) "Working relationships should be established between general hospitals and tuberculosis sanatoria in order to provide surgical care and consultation services for those tuberculosis patients who are afflicted with non-tuberculous conditions".

It is particularly important that regional hospitals which have a Communicable Disease Unit should accept such patients, since they can be given the advantage of special treatment which would only be available in the general hospital.

(59) "Existing sanatoria should continue to be maintained for the care of tuberculous patients, particularly those requiring long-term institutionalization" #

(60) "New tuberculosis sanatoria should be built adjacent to or near general hospitals and be operated in connection with or under the joint management of general hospitals".

This recommendation is looking to the time when tuberculosis hospitals will be little used, and the buildings can be taken over for general hospital purposes or as chronic disease annexes.

#### Nervous and Mental Diseases

Until recent years the field of psychiatry has been one of the most isolated of the special fields of medicine. Today the relation between mental and physical health is clearly recognized, as well as the need for general medical services to care for the physical illnesses of patients with mental disease. Many of the border-line cases of mental illness and those of short duration can be better cared for in the general hospital than in a special institution. General hospitals should not be expected to provide for all types of mental illness, but they should make available diagnostic and therapeutic services for which the term of illness is of short duration and the prognosis favorable.

(61) "General hospitals should provide facilities and personnel for the diagnosis of mental diseases and for the treatment of those patients who are not in need of long-term institutional care".

In Nova Scotia, the Victoria General Hospital now admits such patients. It is recommended that regional hospitals do likewise as psychiatrists become available to staff the services.

(62) "Mental hygiene clinics should be established in the out-patient departments of general hospitals whenever competent professional service is available".

It is recommended that each regional hospital be provided with such facilities both for in-patient and out-patient treatment, and that this be integrated with the provincial program for diagnosis and care of the mentally ill.

(63) "The service of general hospitals and special hospitals for nervous and mental diseases should be integrated in order to provide proper care and consultation services in the special fields of medicine".

This is now being organized through joint appointment of psychiatrists to the Victoria General and Nova Scotia Hospitals and the Post-Graduate Training Program in Psychiatry, at Dalhousie University.

(64) "Opportunities should be created for the development of closer relations between the professional personnel of psychiatric hospitals and general hospitals so that psychiatrists and their associates, and general practitioners and the members of the medical staff of the general hospitals can better develop a sympathetic understanding of the special problems involved in the care of all types of illness".

(65) "Consideration should be given to the revision of the laws governing the detention and commitment of individuals afflicted with mental illness in order that they may receive proper diagnostic study and the stigma of commitment may be removed so far as possible".

#### Chronic Diseases

(66) "When need exists, provision should be made in general hospitals or in adjacent buildings for patients who are afflicted with chronic disease and who require active medical care".

This has already been discussed in the section dealing with hospital facilities for the care of the chronically ill.

(67) "Regulation of nursing homes and other institutions for the care of chronically ill patients should be established to guarantee high quality care and patient safety".

A system including only regional hospitals for the chronically ill would very soon become over-loaded with aged and otherwise disabled persons who require only custodial care, unless some other provision is made for these cases. This can best be done through nursing homes located near to the patients' own homes. It is recommended that financial assistance be granted to such homes as qualify under a system of inspection and licensing, for the care of those patients who are unable to pay. If a system of compulsory hospital insurance is introduced, these homes would have to be an integral part of the system. Otherwise the hospitals for chronically ill would become crowded with more or less permanent residents, who do not require such an expensive form of hospital care. A system of inspection and licensing would be essential to maintain the standard of care in such nursing homes.

#### Convalescent Patients

(68) "The general hospital should include facilities for the care of short-term convalescent patients. There should be an organized service of this type ready for use by individual patients as the need arises in small hospitals and in continuous operation for groups of patients in special units or in separate pavilions in large hospitals".

It is recommended that private and semi-private facilities of this type be provided in the regional and provincial hospitals. A hospital could best determine its needs in this regard by keeping a record for a period of a year to determine how much demand there might have been on the part of patients and doctors had such facilities existed. At present no reasonable estimate of requirements can be made for this province.

(69) "The general hospital should provide special dietetic and therapeutic facilities for both convalescent patients who remain in the hospital and those who, although able to return to their homes, require special out-patient service".

In the cities and larger towns such a service through the out-patient department may greatly reduce the period of hospital treatment. It must be integrated with the services of the general practitioner and should not in any way replace him. The extension of visiting nursing services is also to be recommended in order to reduce costs and to decrease the term in hospital of certain types of cases.

#### Out-Patient Department

(70) "The out-patient department of a hospital should be organized and developed on sound principles as an integral part of the hospital and of the health service of the community".

Hospitals in Nova Scotia are doing a large volume of out-patient work, but only a few have an organized out-patient service with space, equipment and staff assigned for this purpose. The others make use of a minor operating room, a patients' room that is unoccupied, or other facilities. They have no organized schedule of clinics.

It is recommended that each regional hospital and the district hospitals of 75 beds or more have an organized out-patient department for treatment of ailments not requiring hospital care and also for the use of preventive clinics at regular intervals for pre-natal care, well-baby clinics, immunization, etc. The development of such services is regarded as a pre-requisite to the establishment of a compulsory hospital insurance program if over-loading of in-patient facilities is to be avoided.

#### Medical Social Service

(71) "Medical social service should be organized as a separate department in the hospital and financed through regular budget sources".

(72) "Medical social service should supplement but not supplant the function of administrative and other hospital personnel".

(73) "Administrators and medical staffs should recognize that it is the primary function of medical social workers to provide the physician and other responsible for the patient's care with adequate information concerning the patient's socio-economic status and environment and to interpret to the patient such items of the physician's advice and instructions as may be required and helpful to his recovery and the maintenance of health".

(74) "Medical and nursing students should be instructed in the proper use of medical social service through emphasis on this phase of health service in medical and nursing schools as well as in the staff meetings conducted by hospitals".

(75) "Greater use of public assistance and community welfare agencies should be made by hospitals to augment their medical social service programs".

The Victoria General Hospital and the Halifax Infirmary are organizing medical social services. Other hospitals have none. It is recognized that modern hospitals can benefit greatly from a well-organized and active social service department working in the hospital but, more important, acting as liaison between the hospital, the patients' family and various community agencies. The social service department can frequently help the hospital to save money by arranging for services in the home that will permit earlier discharge from hospital, but its primary purpose is improvement of the service through attention to socio-economic factors beyond the field of activity of the medical and nursing professions. The department should not be confused with the credit department, and activities of this type should not be delegated to the medical social service to avoid detriment to the public relations of the social service worker. The experience of the social service worker may also be of value in the organization of the hospital records department and in the setting up of personnel policies.

It is recommended that a Medical Social Service Department be established in each regional hospital, and where economically feasible and otherwise practicable, in district hospitals, or in organized groups of district hospitals within a reasonable distance from each other. It is also recommended that assistance be provided in the training of medical social workers from the Professional Training Grant.

#### Use of Hospital Diagnostic Facilities

(76) "Hospitals should make their laboratory and other diagnostic facilities readily available to the members of the local medical profession as well as to the members of their medical staffs".

The concept that a hospital is an institution meant solely to care for the patients within its walls is an out-moded one. Hospital authorities have at times placed additional burdens upon the community by requiring physicians to duplicate much expensive equipment in their own offices, when it was available and not in full use in the hospital. Costs of laboratory and other services, if provided at all, have been excessively high. A more liberal and co-operative program is needed to give the best service to the community.

(77) "Diagnostic clinics should be established in general hospitals in the interest of both the general practitioner and the patient". Diagnosis is often complicated and costly, requiring specialist consultations and special equipment and technical services. An increasing proportion of the population is falling into the class which may be called the "medically indigent". They can afford to pay for the usual medical services, but find it difficult to finance an expensive investigation or special form of treatment. Physicians are, therefore, faced with the necessity of attempting to make a diagnosis without adequate special investigation, or placing such an economic load on the patient that he cannot afford treatment after the diagnosis has been made. There is a definite need for group diagnostic clinics to make the most effective use of specialist and other services, both for those who can afford to pay and those who cannot or can only partly finance the costs. A Provincial Diagnostic Clinic at the Victoria General Hospital is the first requirement, with the later development of diagnostic clinics at the Regional Hospitals.

(78) "Hospitals should make office space available when conditions permit and when such arrangements are desired by members of their medical staffs".

In many modern medical centers there are indications that physicians desire office space in hospitals. Some institutions are already supplying it. It is believed that this will be extended and the hospitals will become the focal point of all health services in the community. This would certainly make more efficient use of the special diagnostic and treatment facilities of the institution, which would tend to gain from the reduction in cost per unit of work in the laboratory, radiological and other departments. The public would also gain the advantages of the "group practice" system.

(79) "Arrangements for hospital office space should be flexible to permit either full-time or part-time occupancy of facilities".

(80) "The use of office space and hospital equipment should be financed by physicians to the extent they are used, under arrangements which are legal and equitable to both physician and hospital".



(81) "When local conditions permit, hospitals should combine their efforts with the medical profession for the extension of group medical practice".

In smaller centers the duplication of services and equipment is very great if group practice clinics are separate from the hospital.

(82) "Hospitals should arrange for the use of their equipment and technical personnel by organized groups of physicians to the mutual advantage of patients, physicians, and hospitals".

It is believed that the ideal set-up in Nova Scotia is to have space provided for the practising physicians of the town within a wing of the hospital building. The laboratory, x-ray department and other hospital services will then be more readily available for their use. In larger centers of population a separate medical office building or group clinic building may be required but it should be as closely related to the hospital as is physically possible.

St. Martha's Hospital is planning to provide for the doctors' offices in the new sections which are to be added. The Eastern Shore Memorial Hospital at Sheet Harbor also has office and clinic space for the two physicians practising in that district. As the advantages of this method of practice become more fully appreciated by the profession, the hospital administration and the public, it is likely that this system will be extended.

#### Rehabilitation Programs

(83) "Hospitals should provide those facilities and services which will aid in restoring the patient to as full a measure of physical and mental health as possible and in eliminating or substantially reducing his disabilities as handicaps to employment".

(84) "Rehabilitation services should include physical, psychological, and occupational therapy administered under skillful professional and technical direction".

(85) "Hospitals should assist in the establishment of or should correlate their services with community centers through which all types of rehabilitation services are made available to the disabled individual to enable him to achieve the maximum restoration to normal health and function".

A few hospitals in Nova Scotia have some equipment for physiotherapy usually in association with the Radiology Department. There is a definite need for qualified physio-therapists and occupational therapists, particularly where they could supervise the programs for chronic, psychiatric, convalescent and acutely ill patients in regional and provincial hospitals.

It is recommended that such services be provided in regional and provincial hospitals and that the training of personnel be assisted from the Professional Training Grant. It is also recommended that at least one of the chronic disease hospitals have a complete rehabilitation program, probably the one at the Victoria General Hospital.

(86) "Hospitals should conduct continuing programs in health education for both patients and public".

(87) "Educational programs should be both specific and general in type; specific, in that they are directed to the immediate interest of the patient, his relatives and friends, and general, in that they also include material of broad public interest".

(88) "Printed material should, when possible, be supplemented by demonstrations and special group meeting or classes, particularly for ambulant patients".

(89) "Hospital programs in health education should be coordinated with those of local, provincial and national public health agencies".

(90) "Physical examinations and health promotion programs should be provided regularly for hospital personnel as well as for the general public".

The importance of making full use of hospitals as health education centers in this province has already been emphasized.

#### Coordination of Hospitals and Public Health Departments

(91) "Hospitals and health departments should coordinate their efforts and integrate their functions".

As already stated, the old concept that prevention was the duty of the medical public health officer and diagnosis and treatment of disease the responsibility of the clinician has become out-moded. It is recognized that the family physician is or should be the most important worker in the field of preventive medicine. Many diseases cannot be controlled by the organized community-wide approach of the health department and must devolve upon the physician who cares for the family unit. The concept that the physician visits the family only when called because of illness is being replaced by the idea that the family physician is concerned with and actively practises measures to conserve and improve the health of all members of the family. Such a practitioner is the back-bone of a modern health program. On the other hand, the family physician cannot undertake responsibility for the many aspects of a health program which involve the community, the county or the province. The specialist in public

health is there to assist him, just as the specialist in surgery, medicine or radiology. The two programs cannot and should not be separated, and there is need for much more co-operation than now exists. The hospital may very effectively serve as the rallying point to unite the two branches of the medical profession.

(92) "There should be close relationship between hospital and public health department programs so that the educational activities of the hospitals can include training in public health work".

(93) "Unnecessary duplication of effort and equipment should be avoided whenever possible through joint use of facilities by hospitals and public health departments".

One co-operative effort which might be developed would be the use of a photo-fluorographic unit in the hospital for routine x-ray of all admissions and to provide a similar service for the patients of the practising doctors in that area, and for any other groups which might be referred by the local or divisional health officer. This will be further discussed in the section on Tuberculosis Control.

(94) "Integrated action programs, involving laboratory tests, x-ray examinations, case-finding activities, maternal and child clinics, out-patient services, and communicable disease control, should be conducted jointly by hospitals and public health departments".

The administrative and field activities involved in such service can best be performed by the health department, particularly through the public health nurses, but the clinical work should be the responsibility of the clinicians.

(95) "Co-operative programs of health education, preventive medicine, visiting nurse service, social service, and statistical reporting between hospitals and public health departments should be extended".

(96) "Arrangements should be made to permit close working relationships between the hospital administrator and the public health officer, and each should have a broad understanding of the other's problems".

(97) "Competent public health officers should hold membership on hospital staffs and participate in staff activities".

Divisional Health Officers in Nova Scotia are usually made courtesy members of the staff of the hospital nearest to their headquarters and frequently act as consultants on communicable diseases and tuberculosis. Their advice and assistance could be used also in organization of good preventive medical programs for protection of the hospital staff and patients, and the planning of health education programs.

(98) "Whenever possible, public health departments (or branch offices) should be housed in hospitals or adjacent buildings".

(99) "Hospital licensure laws should be used as a means to develop an effective, economic, integrated hospital service which will adequately supply the public's needs".

As already recommended, hospitals should be subject to a system of grading based on definite standards and on periodic inspection. Regional and provincial hospitals should also qualify under the standardization program of the American College of Surgeons and be recognized as teaching hospitals for undergraduate internes.

(100) "Before any rural community builds a new hospital, a careful study should be made of the local situation to determine the size of the area which the hospital is intended to serve, the number of people to be served, the amount and quality of facilities available in near-by communities, the cost of the proposed construction, the estimated cost of operation and maintenance, and the way in which the hospital would be integrated with near-by hospitals".

(101) "Hospitals should be constructed only where the size of the population, the availability of medical and technical personnel, transportation and topographical factors, and methods for financing the service justify the establishment and indicate continuous successful operation of such facilities".

(102) "The convenience of the patients and the accessibility of the institutions should be considered in the establishment of rural hospitals. The hospital community should be large enough so that complete hospital service can be provided economically, but it must be small enough to be convenient for use by residents in the area".

(103) "The establishment of rural hospitals should be contingent upon a reasonable expectation that a high quality of medical care can be developed and maintained".

(104) "If a real need for a hospital in a low income rural community can be demonstrated by application of accepted standards, the county, the province, and/or the Dominion should provide some sort of equalization fund or subsidy to assist the community in the construction and support of such a hospital".

The application of these recommendations to the situation in this province has already been discussed. It will be noted that the recommendations already made in this report are in line with the modern trends as indicated by the above-quoted sections.

(105) "In order to secure a more adequate supply of physicians and nurses in rural areas, special inducements should be offered to attract and to hold the interest of physicians and nurses in this type of practice".

(106) "In order to provide for the health needs of the people in small communities in which it is impractical to establish hospitals of minimum size (approximately 50 beds), health and medical service centers (varying in type) should be established".

These are the equivalent of the community hospitals in Nova Scotia, which should in fact be community health centers to achieve the best results.

(107) "In order to maintain proper standards of service in small hospitals and medical service centers and provide for the continuing education of the physicians in these institutions, they should be affiliated with institutions in which comprehensive services and competent professional personnel in the special fields of medicine are available".

#### FINANCING HOSPITAL SERVICES

The annual cost of all health services is usually estimated at 4 to 5 per cent of the national income. Hospital services require 13 to 18 per cent of this total. The general hospitals in this province have for the most part been constructed through voluntary effort except the Victoria General Hospital; those for tuberculosis and mental diseases have been provided by the provincial or municipal governments. Today there is greater difficulty in obtaining large donations from the wealthy but heavily taxed individual; Costs of construction have greatly increased as have costs of operation. The voluntary hospitals, therefore, require a broader basis of support. In several towns the responsibility has been turned over to the Town Council. This is not always satisfactory from an administrative standpoint. Moreover, it places a heavy burden on the urban dweller to provide hospital services for the surrounding rural areas. Hospital care for the indigent is the responsibility of the Municipal governments, which paid the hospital three dollars per day(1). The underlying principles are recommended as the basis for any system designed to ensure wide distribution of hospital care and a high standard of service.

(108) "Adequate hospital care should be readily available to all people regardless of economic or social status".

(109) "Complete hospital service for the treatment of illness and all other hospital activities necessary to the welfare and health of the people should be integral parts of the hospital program".

(110) "The financing of hospital services should be sufficient to provide high quality care".

(1) This will be increased in 1950 to \$4.00 per day, all inclusive.

(111) "Insofar as possible, the maintenance of hospital service should be a direct responsibility of the residents of the area who use the facilities".

(112) "Financial support of the general hospital program should be a responsibility of all persons".

(113) "General tax funds should be used to purchase hospital care for indigent patients".

(114) "An integrated provincial plan for the extension of hospital and public health facilities should be developed by a single official agency of the province".

The Provincial Department of Health is the logical body to undertake this responsibility.

(115) "Nursing education in hospitals should be subsidized from tax funds in the same manner that general education programs are assisted".

Further recommendations on this matter will be included in the Report on the Nursing Survey.

(116) "The construction of special facilities for chronic diseases and the provision of that portion of care which is beyond the ability of the patients or their families to purchase should be financed from tax funds and made available to all residents of the province".

This would require an extension of the present system of provincial aid to public hospitals.

(117) "Physical facilities and professional personnel must be increased to meet an expanded demand for service before a comprehensive, universal coverage hospital payment plan can be inaugurated". This cannot be too strongly emphasized. The needs for additional general hospital beds, chronic disease hospital facilities, nursing homes and personnel to operate these institutions must be met and plans made to maintain them before province-wide hospital insurance is instituted.

It is particularly important that the requirements for nurses and nursing aides be filled before any great extension of service is contemplated.

(118) "Governmental and non-governmental agencies should combine their efforts to promote voluntary participation in non-profit pre-payment hospital plans so that financial barriers to hospital service may be reduced as rapidly as additional professional personnel are trained and hospital facilities are constructed".



(119) "Concerted efforts should be made to use existing agencies such as Blue Cross to accomplish the extension of non-profit prepayment plans until some other more satisfactory and comprehensive means is developed to provide high quality care to meet all of the needs of the people".

(120) "Hospitals should arrange for the integration of services which would make available consultation services and the part-time services of radiologists and pathologists in small institutions which individually would not be able to finance effective programs of this type on full-time basis".

(121) "Coordinating agencies should be established to assist with the development and maintenance of relationships among hospitals. The membership of these agencies should include representatives of the hospitals, of the medical and related professions, and of all health organizations functioning in the area".

It is recommended that a Regional Council be established in each hospital region in the province to ensure coordination among hospitals and planning for future development, and to co-operate with the public health department in its program. Membership may vary somewhat from region to region. It should include as a minimum one member from the Hospital Board and one from the administrative staff of each general or special hospital in the area, and a representative of nursing homes; also representatives of the regional medical society and nursing association, the divisional health officer and a limited number of representatives of other interested organizations. Annual, semi-annual or more frequent meetings should be held. The term of office should be not less than three years to ensure some continuity. It is strongly recommended that such a body be constituted as a Regional Health Council not solely as a Regional Hospital Council, and that it have terms of reference broad enough to cover planning and integration of all aspects of health, medical and hospital services. This council would act in an advisory capacity to the Director of Hospital Services. A similar body at the provincial level would assist the Director and integrate the program with the professional associations and Maritime Hospital Association.

(122) "The medical profession should exert its efforts to develop the necessary medical staff co-operation required for the establishment of an effective integrated hospital system".

12. 11. SUMMARY AND MAJOR RECOMMENDATIONS

On the whole the hospitals of Nova Scotia are providing very good service. Their Boards of Management and Administrators have faced and solved many serious problems and have built up a first-rate group of hospitals. In recent years the increasing costs of maintenance and operation, and the growing need for replacement or expansion of buildings have added greatly to these problems. Criticisms have been presented and constructive recommendations offered in this report, but these are not meant in any respect to minimize the excellent contribution which has been made.

Although comments are sometimes made concerning the "Hospital system" of Nova Scotia, no such system exists. There is no organization or integration either on a provincial or regional basis. Communities, large and small, have been provided with hospital services by the efforts of various individuals or groups without any definite plan or over-all system. The Provincial Government has provided the major referral center or base hospital at Halifax and has assisted most of the other general hospitals by means of a "per diem grant". At present this amounts to 45 cents per day for the first 5000 patient-days and 30 cents per day thereafter. The Provincial Department of Health has a Hospital Division which is responsible for the financing and operation of the Government Hospitals. The Department also has an Inspector of Hospitals and Humane Institutions, who is, in addition, Medical Health Officer for the Atlantic Division. He inspects the hospitals with particular reference to matters of health and sanitation, but not with regard to over-all administration and services. Since the Province is providing increased financial aid toward hospital construction and operation, it seems logical that it should assume some responsibility for the planning and integration of the hospitals in order that the system operate on a sound economic basis. However, such control should be strictly limited, leaving the major responsibility for operation, administration and professional services in the hands of the local hospital authorities, who still bear the major share also of the financial responsibility.

In view of the increasing complexity of hospital services, and the need for regional and provincial planning in order to achieve the best hospital services of various types, and in view also of the increased financial contributions of the Province for hospital construction and per diem maintenance, it is recommended:

(1) That the Provincial Government assume wider responsibility for the planning, supervision and financing of the hospital system of Nova Scotia.

(2) That these responsibilities be allocated to the Department of Health.

(3) That a Hospital Division be set up in the Department of Health and a Director appointed who is well-qualified in hospital administration, economics and other aspects of hospital planning.

(4) That the Director also be given responsibility for such details of administration of the Government Hospitals as is now handled by the Department of Health.

(5) That the Director be responsible to the Deputy-Minister of Health, as are other Divisional Heads, but that an Advisory Council be set up to advise and otherwise assist him. This Council should have representatives of the Nova Scotia Division of the Maritime Hospital Association, the Medical Society of Nova Scotia, the Nova Scotia Registered Nurses Association, Dalhousie Medical School and such other interested bodies as may be included by the Minister. Regular meetings shall be held at intervals decided by the Advisory Council. The Director shall act as Chairman and meetings may be called by him or by any three members. It is believed that such a body would serve a real function, particularly in the initial phases, in helping to plan an integrated program, and in furthering good relations between the Department and the hospitals.

(6) That all general hospitals in the Province be required to enter into an integrated hospital system and be subject to a grading procedure and regular inspection in order to qualify for financial assistance from the Provincial Government for construction or per diem maintenance.

(7) That clearly defined minimum standards be set up for four types of hospitals - community, district, regional and provincial. The details of these standards should be worked out by the Director with the assistance of the Advisory Council. Certain suggestions have been included in this report.

(8) That the grading of a hospital should not be automatic on reaching these standards, which would be only the minimum requirements. Decision concerning initial grading and later changes would be made by the Minister on recommendation of the Deputy Minister and Director of the Hospital Division on consultation with the Advisory Council.

(9) That regional and provincial hospitals be provided with larger financial grants than local or district hospitals to compensate them for the services provided to patients from other hospital districts and to enable them to establish and maintain special diagnostic and treatment facilities. Whether this additional subsidy should come from the Provincial Government or from the group of municipalities within the Hospital Region concerned may require further study. It is especially recommended that subsidies be provided to reduce the costs of diagnostic services which have become increasingly complex and costly.

(12) That the further allocation of hospital construction grants be on a priority basis giving first priority to those areas which are below the estimated requirements for general hospital beds as shown in the preceding tables, and giving a high priority also to hospitals for the chronically ill.

(13) That the recommendations contained in the final columns of tables 24 to 32 be accepted as the provincial plan for general hospital construction for the next few years.

(14) That applications for construction grants which do not coincide reasonably closely with the figures contained in these tables should not be recommended to the Federal Department of Health. In an application for such a grant the Provincial Department of Health is already required to certify that the additional beds fit into the provincial plan for hospital construction.

(15) That grants should not be made for the construction of a general hospital in any district which is now located within 25 miles of an existing general hospital, except under special circumstances and with approval of the Director and his Advisory Council.

(16) That the Department of Health, through the Director of the Hospital Division, undertake negotiations with the municipal governments in each region leading toward the establishment of one regional chronic diseases hospital or wing and not more than one mental hospital or wing in each region to replace the present County Homes and Hospitals, as these become obsolescent. Both the mental and chronic disease hospital should be located in association with the regional general hospital. It is further recommended that one of these chronic disease hospitals be equipped and staffed to provide a complete and modern rehabilitation program.

(17) That the system of per diem grants be expanded to include patients in approved chronic disease wings, annexes or units in regional hospitals.

(18) That minimum standards also be set up for such chronic disease units, and approval of per diem grants be subject to the hospital at least reaching these standards and subject further to the approval of the Director on the advice of the Regional Advisory Committee.

(19) That a system of licensing and inspection of nursing homes be introduced, such homes being for the custodial care of completely disabled or other patients who do not require, or will not benefit further from, the special treatment facilities of the chronic disease hospitals. These nursing homes might be in addition to a system of boarding-out for individual patients.

(20) That a system of per diem grants be provided to assist in the care of patients in such nursing homes.

(21) That the scales of such per diem or other grants to regional and district general hospitals, to hospitals for chronic diseases and to nursing homes be established after study and recommendation by the Director of the Hospital Division.

(22) That assistance be given to educational and recruitment programs designed to provide for a large and very necessary increase in the number of trained personnel, particularly of nurses, nursing aides or assistants, laboratory and x-ray technicians, medical social workers, physiotherapists and occupational therapists. The success of the whole program of improvement and expansion of hospital services depends upon the recruitment and training of hospital staff. The shortage of nurses and nursing aides is especially acute and the numbers required are large. Their training should, therefore, receive first priority. However, the training of other essential personnel should not be neglected.

(23) That the Provincial Government, through the Department of Health or of Education, provide financial assistance for institutions giving training programs to provide the above staff.

(24) That the terms of the Hospital Construction Grant be broadened in order that assistance be given for -

(a) modernization of older hospital buildings to improve efficiency and fire safety.

(b) additions to training and residence facilities for nurses.

(c) additions to training facilities for other necessary health and hospital personnel, both professional and technical.

(25) That careful and detailed consideration be given to the desirability and practicability of eventually introducing a system of compulsory contributory hospital insurance in this province guaranteeing hospital service for all who need it. It is specifically recommended that, if such a system is considered desirable and practicable, it should not be introduced until the demands upon it can be reasonably well met without a decrease in the present level of service and efficiency. When the physical facilities for the care of the acutely ill approximate the estimates shown in tables 24 to 32 and these hospitals are operating under an integrated program, when the physical facilities for the hospital care of the chronically ill reach the minimum recommended in Section 8 and an adequate number of licensed nursing homes are available for the care of the completely disabled, and when the shortage of nurses and nursing aides has been brought to a level that is not more than 10 per cent below requirements, then -- and only then -- should a compulsory



system of hospital insurance guaranteeing hospital service to all, be considered.

It is recognized that there are un-met needs in the provision of hospital care and that some patients are not receiving such service who should have it. However, the mere provision of sufficient money from tax sources, to allow "free" hospitalization of all who need it, cannot and will not improve the situation until personnel are found and trained and hospital beds are provided. Moreover, provision of a partial service is not practical and is, in fact, impossible. The acute general hospital would be overwhelmed with chronically ill, if inadequate facilities were provided for the latter. The chronic disease hospital would be permanently filled with the totally disabled and incurable if nursing homes were inadequate. This has been the experience in other areas where such a compulsory insurance plan has been introduced and the service guaranteed by Government. It is not suggested that we strive for the ideal set-up before doing anything in this province. However, it is strongly emphasized that certain practical minimum requirements must be met or the quality of service under a tax-supported hospital system will deteriorate. The final condition may then be worse than that which the system planned to correct. There is certain to be an increased demand for hospital services under such a system, and not all of it will be urgent or even valid. If the present system is so administered that no one urgently needing hospital care is deprived of it, no major catastrophe will result from delaying the advent of a compulsory tax-supported system of hospital insurance until we have the facilities to operate it efficiently. But immediate steps should be taken to start providing these facilities as recommended above.

During this period of growth of the hospital facilities and training of personnel, there should be a great improvement in the availability of hospital services over the whole province. The effect of the recent increases in per diem grants to the general hospitals and in the daily rate for municipal patients can be observed, together with the effect of such other financial assistance as may be approved from the above recommendations. It may be that such additional assistance will go far to relieve the financial burdens of the hospitals or that a further extension of the same type of assistance would be adequate. However, this would not assist the individual patient to pay his own hospital bill, although it might help to reduce it to a more reasonable level. A system of pre-paid hospital insurance is undoubtedly the best method for the individual to avoid undue financial strain when serious illness necessitates hospitalization. However, it is still a moot question whether there is any advantage in making such insurance compulsory and having the Provincial Government assume the responsibility for collecting the premiums from every



individual in the form of a special tax or obtaining the funds by less direct methods. The County of Antigonish now has prepaid hospital insurance coverage of eighty per cent of the population under existing voluntary plans, although this county is one that has been steadily declining in population, largely for economic reasons. A well-organized program to encourage voluntary hospital insurance under existing non-profit organizations has, therefore, been shown to have considerable success in an area of relatively low economic level. There are no data to show whether the twenty per cent who are not insured are all unable to afford it, or whether some do not wish to have it. Provision of assistance for the twenty per cent or less who cannot afford such insurance might be achieved through the present system of municipal and provincial aid, but this should be extended to cover some persons who would not be classed as indigent and are not now eligible, although in the lowest income bracket. A major criticism of this system is that it requires a "means test". However, it should be noted that in most Nova Scotia hospitals, patients whose hospital bill is paid by the municipality are cared for in the same wards and receive the same service as patients who are paying individually for ward accommodation. There is no separation of "public patients". This greatly reduces the force of such criticism.

Final decision on the desirability of introducing a compulsory tax-supported hospital insurance plan will depend largely upon estimates of the cost and methods of financing. Insufficient data are available to reach a decision at present, but the matter should be under continued study by the Director of the Hospital Division during the next few years, while the facilities will still be inadequate to introduce such a system in any event.

Some estimates of the probable costs of such a program are presented in this report. However, the collection of more precise data following the introduction of a standard system of accounting in all hospitals, will allow better estimates to be made within the next few years while the physical facilities are being built up to a level where such an over-all hospital insurance plan would be feasible.

## APPENDIX A

### MEMBERSHIP OF ADVISORY COMMITTEES AND SUBCOMMITTEES ASSISTING IN THE HOSPITAL SURVEY AND REPORT

#### 1. Central Health Survey Committee

Chairman: Minister of Health(1)

Dr. P. S. Campbell,	Deputy Minister
Dr. J. S. Robertson,	Assistant Deputy Minister
Dr. J. J. Mac Ritchie,	Inspector of Penal and Humane Institutions.
Miss M. E. MacKenzie,R.N.,	Superintendent of Public Health Nurses.
Dr. D. J. MacKenzie,	Director of Laboratories.
Dr. C. Marshall,	Chief of the Division of Neuropsychiatry.
Mr. G. Gregoire,	Accountant
Dr. A. R. Morton,	Commissioner of Health, City of Halifax.
Dr. R. D. Howland,	Economist, Nova Scotia Research Foundation

#### 2. Advisory Health Survey Committee

Dr. H. B. Atlee,	Maritime Universities' Conference
Warden W. J. Dowell,	Union of Nova Scotia Municipalities
Dr. N. H. Gosse,	Medical Society of Nova Scotia
Mr. H. B. Jones,	Trades and Labor Congress
Mr. H. D. King,	Canadian Manufacturers Association(2)
Dr. G. N. Logan,	Dental Society of Nova Scotia
Miss M. K. Miller,	Nova Scotia Registered Nurses' Association (2)
Mr. Thomas McLachlan,	Nova Scotia Federation of Labor
Mrs. H. W. Porter,	Maritime Hospital Association
Miss Gwendolyn Shand,	Social Workers

(1) Honorable L. D. Currie and  
Honorable A. H. MacKinnon

(2) Sister Catherine Gerard replaced Miss Miller, and Mr. G. C. Arthey replaced Mr. King in the latter part of 1949 as representatives of their respective organizations.

APPENDIX A (Continued)

3. Subcommittee of Maritime Hospital Association

Chairman: Mrs. H. W. Porter, Kentville

Reverend Mother Mary Ignatius, Antigonish  
Mr. A. D. McInnis, Antigonish  
President, Maritime Hospital Association

4. Subcommittee of Medical Society of Nova Scotia

Chairman: Dr. Hugh Fraser, Bridgewater

Dr. N. H. Gosse, Halifax  
Dr. Douglas Mac Donald, Yarmouth  
Dr. Eric Macdonald, Sydney  
Dr. C. M. Bethune, Halifax

APPENDIX B

MAP OF NOVA SCOTIA SHOWING HOSPITAL REGIONS,  
POPULATION AND LOCATION OF HOSPITALS

Appendix B is available in the master copies of the report at the Nova Scotia Department of Health, Halifax, and the Department of National Health and Welfare, Ottawa.

This appendix consists of a large map of Nova Scotia with borders of existing and proposed health divisions and hospital regions, the population of each county and region, incorporated towns and cities, and the location, type and bed capacity of all hospitals.

APPENDIX C

DISTRIBUTION OF PATIENTS DISCHARGED IN 19

Hospital	Anna- polis	Anti- gonish	Cape Breton	Col- chester	Cumber land	Digby	Guy- sboro	Halifax	Hants	Inver- ness	Kings
Aberdeen	1	2	1	14	20		50	3	1	2	
All Saints		1	1	22	1681			5			
Annapolis	422					4		2			2
Bayview				2	126			2			
Blanchard Fraser	27		3	5	1	2	1	7	8		1277
Buchanan			1							1	
Children's	18	10	52	57	25	9	17	2695	59	8	31
Colchester		2		2797				2	182		
Dawson Memorial	19		4	1	2			12			7
Digby General	119					988		1	1		4
Eastern Kings								6	86		636
Eastern Memorial					1		101	1			
Glace Bay General			2979		1		5	2		9	
Grace Maternity	3	1	3	1	2		6	2115	46		11
Guyaboro							138	1			
Halifax Infectious								254			
Halifax Infirmary	17	15	81	32	37	15	13	5873	66	12	26
Hamilton Memorial		1	1112		2		2	4	1	9	
Harbour View			1766								1
Highland View			4	9	1575			5	1	1	
Inverness			161	2			7	2		520	
Isle Madame		1	2				1			8	
Lillian Fraser				120	41			3			
New Waterford			2141							4	
North Cumberland					210		1				
North Queens	25										
Payzant Memorial	19							40	1379		9
Roseway General								2			
Sacred Heart			1	1				3		885	
St. Joseph's		2	3102							21	
St. Martha's		1690	25	7	4	1	893	12	1	137	1
St. Mary's										873	
St. Rita		1	2047		1		1	1		12	
Soldier's Memorial	689								2		168
South Cumberland				25	179						
Sutherland Memorial		1	1	8			13		5	1	1
Sydney City			2535				3			23	
Victoria General	150	29	467	304	284	74	103	5214	278	41	110
Western Kings											921
Yarmouth General	2		1		1	101		3			2
	1511	1756	16490	3407	4193	1194	1355	16270	2116	2567	3207

IN 1948 BY MUNICIPALITY

	Lunen- burg	Pict- ou	Queens	Rich- mond	Shel- burne	Vic- toria	Yar- mouth	Other Prov- ince	Other Coun- tries	Not Recorded	No legal domicile	Total
		3241	1	1			1	17	1			3 356
		3						7	4			1 724
2	1		3		1		3	1	1			440
								1				131
1277	47	8	1				1	4				1 392
				1	2	333						338
31	45	28	20	4	9	2	7	10	12			3 118
								14	2			2 999
7	1130		272		7		1	4	3			1 462
4	1						4	10	6			1 134
636	2				1				1			732
									1			104
				8		16		5	11			3 036
11	20	9	6			1						2 224
									1			140
												254
26	57	44	53	10	9		24	78	164			6 626
	6			1	1	114		5	143			1 401
1						3		4	1			1 775
	1	1						87	7			1 691
		3		13		59		4	4			775
				416				1	1			430
		11							1			176
						1			3			2 149
		1							3			215
	75		3									103
9	19							5	4			1 475
			13		844		10		6			875
						13		3	3			909
		2		15		8		11				3 161
1	4	66		88		3		17	9			2 958
			1	2		1						877
		1		42		11		31	8			2 156
168	1							1	1			862
								4	3			211
1	1	697						8	3	11		750
	1			46		19		7	1			2 635
110	377	235	172	38	29	20	46	85	14		7	8 077
921									4	13		938
2	1		3		180		1602	10	16			1 922
3207	1789	4350	548	685	1083	604	1699	434	442	24	7	65 731



APPENDI

ALLOCATION OF BEDS BY HOSPITAL AND BY COUNTY TO  
POPULATION AND ON THE DISTRIBUTION OF PATIENT

Hospital	Number of Beds Per Hospital at															
	Anna- polis		Antigo- nish		Cape Breton		Col- chester		Cumber- land		Digby		Guys- boro		Halifax	
	5	6	5	6	5	6	5	6	5	6	5	6	5	6	5	6
Aberdeen							1	1	1	1			3	4		
All Saints							1	1	85	102						
Annapolis	27	32														
Bayview									7	8						
Blanchard Fraser	2	2													1	1
Buchanan																
Children's	1	1			2	2	3	4	1	2	1	1	1	1	117	140
Colchester							140	169								
Dawson	1	2													1	1
Digby	8	9									86	103				
Eastern Kings																
Eastern Memorial													6	7		
Glace Bay General					114	137										
Grace Maternity															92	110
Guysboro													8	10		
Halifax Infectious															11	13
Halifax Infirmary	1	1	1	1	3	4	2	2	2	2	1	2	1	1	254	306
Hamilton Memorial					42	51										
Harbour View					68	81										
Highland View							1	1	80	96						
Inverness					6	7								1		
Isle Madame																
Lillian Fraser							6	7	2	3						
New Waterford					82	98										
North Cumberland									11	13						
North Queens	2	2														
Payzant	1	2													2	2
Roseway																
Sacred Heart																
St. Joseph's					118	142										
St. Martha's			53	64	1	1							53	63	1	1
St. Mary's																
St. Rita					78	94										
Soldier's Memorial	43	52														
South Cumberland							1	2	9	11						
Sutherland Memorial													1	1		
Sydney City					97	116										
Victoria General	9	11	1	1	18	21	16	18	14	17	6	8	6	7	226	271
Western Kings																
Yarmouth											9	10				
Total	95	114	55	66	629	754	171	205	212	255	103	124	79	95	705	845

X D

TO PROVIDE 5 OR 6 BEDS PER THOUSAND BASED ON 1948  
 PATIENTS DISCHARGED IN 1948 (APPENDIX C)

to 5 and 6 Per 1000																							
Hants		Inverness		Kings		Lunenburg		Pictou		Queens		Richmond		Shelburne		Victoria		Yarmouth		Hospital Total			
5	6	5	6	5	6	5	6	5	6	5	6	5	6	5	6	5	6	5	6	5	6	5	6
								160	191											165	197		
																				86	103		
																				27	32		
																				7	8		
1	1			65	78	5	6													74	88		
																23	27				23	27	
3	4			2	2	4	5	1	2	2	3	1	1	1	1			1	1	141	170		
10	13																			150	182		
						109	131			33	40			1	1					145	175		
																				94	112		
5	6			32	39															37	45		
																				6	7		
3	3			1	1	2	2	1	1	1	1	1	1			1	1			116	139		
																				100	118		
																				8	10		
																				11	13		
4	5	1	1	1	2	6	7	2	3	6	8	1	1	1	1			2	2	289	349		
						1	1									8	9			51	61		
																				68	81		
																				81	97		
		21	25									1	1			4	5			32	39		
												33	40							33	40		
								1	1											9	11		
																				82	98		
																				11	13		
						7	9			1	1									10	12		
80	95			1	1	2	2													86	102		
										2	2			54	66			1	1	57	69		
		36	40													1	1			37	44		
		1	1									1	1			1	1			121	145		
		5	7					3	4			7	8							123	148		
		35	42																	35	42		
		1	1									3	4			1	1			83	100		
				9	10															52	62		
								34	41											10	13		
		1	1									3	4			1	2			102	123		
16	19	2	3	6	7	36	44	12	14	21	25	3	4	2	2	1	2	3	4	398	478		
				47	56															47	56		
														12	14			112	135	133	159		
122	146	103	124	164	196	172	207	214	257	66	80	54	65	71	85	41	49	119	143	3175	3810		

## APPENDIX E

### CLASSIFICATION OF DATA ON INDIVIDUAL HOSPITALS

Appendix E is available in the master copies of the report at the Nova Scotia Department of Health, Halifax, and the Department of National Health and Welfare, Ottawa.

This appendix contains a thirteen-page tabulation of data on all hospitals in the province under the headings of general information, classification of beds in general hospitals, hospital staff, training facilities, hospital facilities and services, laboratory facilities and services, radiology facilities and services, movement of patients and volume of services.