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AN ANALYSIS OF CERTAIN FACTORS IN THE DIFFUSION OF
INNOVATIONS IN NURSING PRACTICE IN THE PUBLIC GENERAL
HOSPITALS OF THE PROVINCE OF BRITISH COLUMBIA

ABSTRACT

Literature on continuing education for members of the health professions has stressed that understanding of the diffusion process is fundamental to the development of sound educational programs. The present study analyzes the process of diffusion as it functions with regard to changes in nursing practice in eighty-five public general hospitals of the province of British Columbia. Three aspects of diffusion were investigated (1) the flow of new information in nursing through the network of hospitals; (2) factors affecting the adoption of nursing innovations; and (3) factors influencing delay in the adoption process, rejection of innovations, or their discontinuance following adoption. Emphasis was placed on the characteristics of the hospital and the role of the Director of Nursing in the diffusion process.

Relative to the three aspects of diffusion studied, the following were found:

- (1) There appears to be a definite process involved in information-seeking by the Directors of Nursing of the hospitals included in the study and identifiable channels of communication used by these nurses.
- (2) Specific characteristics of the population tended to be related to earlier and later adoption, and a discernible pattern was evident in the adoption of innovations by members of the particular social system under study.
- (3) Factors influencing delay in the adoption process, rejection or discontinuance of innovations were related both to the nature of the new practice and to characteristics of the individuals involved in making the decision to adopt or not adopt the innovation.

Conclusions were drawn as to the seriousness of the problem involved in communicating information on new ideas and practices to nurses in British Columbia and suggestions made of some ways in which this problem might be resolved.

Areas indicated for further research include: an investigation of the flow of information through the social network of nurses within a hospital; an analysis of the in-service aspects of continuing education for nurses; a study of the role of change agents in the nursing profession; the extent of the commercial salesman's influence on the adoption of nursing innovations; and research into various aspects of continuing education programs for nurses, such as analysis of participants, the effectiveness of the short, continuing education course, and the design of effective methods of instruction.

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by

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We accept this dissertation as conforming to the
required standard

THE UNIVERSITY OF BRITISH COLUMBIA

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Date AUGUST 13, 1969.

DEDICATION

To my children, Bud, Barbara, David, Daniel and Eden, whose sustaining encouragement and unfailing assistance made the completion of this study possible, this work is affectionately dedicated.

ABSTRACT

Literature on continuing education for members of the health professions has stressed that understanding of the diffusion process is fundamental to the development of sound educational programs. A review of the literature on diffusion suggests that the theoretical framework that has evolved concerning the transmission of information about new ideas and practices in other disciplines may be applied to nursing.

The present study analyzes the process of diffusion as it functions in regard to changes in nursing practice in a selected segment of Canadian hospitals. Three aspects of diffusion are investigated: (1) the flow of new information in nursing through a network of hospitals; (2) factors affecting the adoption of new nursing practices; and (3) factors influencing delay in the adoption process, rejection of innovations, or their discontinuance following adoption.

The population consisted of eighty-five public general hospitals in the province of British Columbia. An analytical survey method was used and the structured interview technique employed to gather data from the Director of Nursing of each hospital.

Data relative to the flow of information were analyzed by calculating frequency and percentage distributions to assess the relative importance of sources of information used by the Directors of Nursing, and flow charts developed to illustrate the transmission of information through the network of hospitals.

Characteristics of the hospitals, of the Directors of Nursing, of the hospital administrators, and of the nursing staffs, with emphasis on the first two, were studied relative to the adoption of nine new practices in nursing. The hospitals were divided into four categories, according to size. An adoption score for each hospital was computed, based on the stage in the adoption process reached by the nurses for each of the nine innovations. Using these scores, the hospitals were divided into four adopter categories and characteristics of the population related to these.

Frequency and percentage distributions were again used to analyze factors influencing delay, rejection and discontinuance of innovations.

Significant findings in regard to the sources of information used by nurses were (1) the importance of interpersonal communication with colleagues; (2) the high ranking of continuing education programs as an initial source of new knowledge; (3) the role of the hospital supply house salesman in disseminating information to nurses, and (4) the decreasing importance of impersonal sources in later stages of the adoption process.

Two cycles of influence were shown to be operating in the flow of information to nurses in the province; the first deriving from the major teaching and research centers in Vancouver; the second, from the larger centrally located hospitals in districts of the province. Four sequential steps were identified in the transmission of information to nurses in British Columbia.

The specific characteristics of the population which showed a relationship to adoption included:

1. size, teaching status, geographic location, and accreditation of the hospital,
2. age of the Director of Nursing, her marital status, academic preparation, professional nursing experience, extent of attendance at educational meetings, participation in professional nursing organizations, and subscription to nursing journals.
3. professional preparation and prestige of the hospital administrator,
4. relative age of the nursing staff.

Factors influencing delay, rejection or discontinuance were shown to be related both to characteristics of the new practice and to characteristics of the individuals involved in making the decision to adopt innovations.

From the findings of this study, it is evident that there is a serious problem in the communication of new information to nurses employed in public general hospitals in British Columbia. The problem is particularly acute in regard to the nurses in small hospitals.

It is suggested that a step towards resolution of this problem might be the development of a 'systems' approach to continuing education for nurses. This approach could effectively utilize resources and facilities throughout the province and provide for co-ordination of all educational activities for nurses. An integral part of the system would be the development of information retrieval centers in nursing to supplement continuing education programs in the communication of scientific information to nursing practitioners.

Areas suggested for further research include: an investigation of the flow of information through the social network of nurses within a hospital; an analysis of the in-service aspects of continuing education for nurses; a study of the role of change agents in nursing; the extent of the commercial salesman's influence on the adoption of nursing innovations; and research into various aspects of continuing education programs for nurses, such as an analysis of participants, the effectiveness of the short, continuing education course, and the design of effective methods of instruction.

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CHAPTER I

INTRODUCTION

Change has become so rapid that adjustment cannot be left to the next generation; adults must - not once, but continually - take in, adjust to, use, and make innovations in a steady stream of discovery and new conditions. . . . No one will live all his life in the world into which he was born, and no one will die in the world in which he worked in his maturity. . . . In this world, no one can 'complete an education'.

Dr. Margaret Mead¹

I. STATEMENT OF THE PROBLEM

Education for a profession can no longer be considered as limited to the basic preparation for practice in a field. Changes in scientific knowledge and technology have increased the requirements of personal competence and intensified the problem of obsolescence of knowledge and skills in all occupations and professions.² The need for continuous renewal of learning as a basis for professional practice in nursing was clearly expressed in the statement of the American Nurses' Association to the effect that:

In nursing today. . . practice must be based on a continuously expanding and updated body of knowledge. New knowledge pertinent to nursing care accumulates rapidly; nursing responsibilities grow increasingly complex; and changes in health care concepts and therapies are continuous.³

The rapidity with which new knowledge and technology are becoming available in the health sciences has caused a revolution in patterns of patient care, affecting not only nursing and medicine but all of the paramedical professions as well. One of the major problems today is that of keeping the practitioner up-to-date with the latest developments in his field. The transfer of information from the scientist working in research to the individual practising in the field is a matter of major concern for all educators, administrators, and professionals involved in health care.^{4, 5, 6}

This concern was strongly voiced at the Surgeon-General's Conference on Health Communications held in Washington in 1962, where there was general agreement that serious problems exist in the communication of scientific information to practitioners in the health field. It has been estimated that the total body of knowledge stemming from research in the bio-medical sciences has more than doubled in the past twenty-five years. This has increased the complexity and manageability of the information available and intensified the need for more rapid and efficient means of communication.⁷

The members of the Surgeon-General's Conference stated, in their conclusions, that:

In the final analysis, the soundest transfer of research findings to active application in health practice takes place in an educational setting. . . . Thus a broad framework providing a purposeful and formal means for continuing education for physicians and other health practitioners must become the basic structure for communication between the frontier of science and the scene of practice in the health community. . . . This process, complimented by an adequate system of resources for management of the professional literature and supplementary adaptation of storage and retrieval mechanisms would achieve a significant advance in health communications.⁸

Nurses are acutely aware that they must know more than they learned in their basic nursing education programs if they are to feel competent in caring for patients.⁹ It has been said that nurses are probably more actively and extensively engaged in continuing education than the members of any other professional group.¹⁰ In Canada, the number of nurses enrolled in university baccalaureate programs, subsequent to initial courses in diploma nursing schools, has more than doubled in the past five years.¹¹ The proliferation of workshops, institutes, and other short courses for nurses in the past decade has been phenomenal.

The situation in nursing is similar to that in medicine, where McLaughlin and Penchansky report that all kinds of techniques have been planned, offered, and evaluated in the development of continuing education

programs. Yet, there is little knowledge available about the processes by which physicians learn of new information that will help them in their practice or the channels by which this information is relayed.¹² In discussing the problem of developing more effective means of communication to members of the health professions, the members of the Surgeon-General's Committee several times considered the question of communication versus education. They came to the conclusion that:

communication and education are elements of one process by which human states of knowledge, attitudes, and behaviour are modified and that any artificial separation of the two will impede the progress sought by all.¹³

In nursing, there has been a singular lack of research on the communication of new information, or the diffusion of innovations, as the study of transfer of information from scientist to practitioner has been called.

II. PURPOSE OF THE STUDY

It is the purpose of this study to analyze the process of diffusion as it functions with regard to changes in nursing practice in a selected segment of Canadian hospitals, and to relate this to general research and theory about information transmission and the acceptance of innovations. Three aspects of the diffusion process will be investigated:

1. the flow of information about new practices in nursing through a network of hospitals;
2. factors affecting the adoption of nursing innovations, and
3. factors influencing delay in the adoption process, rejection of new practices, or their discontinuance following adoption.

III. ASSUMPTIONS

Prior to designing a plan for conducting this study, certain assumptions were made:

1. There is a definite and predictable pattern to the diffusion of innovations in the nursing community. It should be possible, then, to identify the specific channels used by nurses for the communication of new information and to trace the flow of information through these channels.
2. The nature of nursing innovations will influence their itinerary through the social system of nursing. Characteristics of the innovations as perceived by the Director of Nursing should therefore be considered as factors influencing their acceptance or non-acceptance by hospitals.
3. Certain characteristics of both the hospital and the personnel employed in a hospital are related to the adoption of new nursing practices. Relative to the hospital, these include: size, teaching status, geographic location, and attainment of certain standards as evidenced by accreditation. In regard to the personnel employed within the hospital, the principal individuals to be considered as factors influencing adoption of nursing innovations are the Director of Nursing, the Administrator of

the hospital, and the nursing staff. The Director of Nursing is the administrative head of the nursing department of a hospital, and, therefore, the principal decision-maker with regard to nursing practices within the hospital. It is assumed, therefore, that she plays a key role in the adoption or rejection of innovations in nursing. It seems logical to suppose that characteristics of this individual are important factors to be taken into account in the acceptance of new nursing practices. These characteristics include personal attributes such as age, marital status, and educational attainment, as well as professional qualities such as years of nursing experience, attendance at educational meetings, participation in professional nursing organizations, and professional reading habits.

The administrator is the executive head of the hospital. He has overall responsibility for management of all departments within the hospital and the authority to make final decisions concerning all aspects of its operation. It is assumed that characteristics of the administrator, such as his age, professional preparation, and prestige among other administrators will affect the hospital's adaptability to change in regard to the nursing component of patient care.

In the final analysis, it is the nursing staff of the hospital who implement innovations in nursing practice. It is assumed then, that characteristics of the nurses such as their age, where they had taken their basic nursing programs and policies of the hospital with regard to attendance of nurses at educational meetings, will also influence the adaptability of the hospital to changes in nursing practice.

IV. PLAN OF THE STUDY

This study was designed to test the above assumptions in the nursing community of British Columbia, specifically among those nurses employed in public general hospitals in the province.

Hospitals in British Columbia are organized and operated under a Provincial Hospital Act. This Act specifies three types of hospitals: (1) public hospitals, which are operated as non-profit-making institutions primarily for the care of acute patients, (2) private hospitals, which include small public ones operated by industrial concerns principally for their employees, and nursing homes, as well as other privately owned and operated hospitals,* (3) rehabilitation, chronic, and convalescent hospitals. These are all operated as non-profit making institutions for the care of patients who will benefit from intensive rehabilitative and extended hospital care.¹⁴

The hospitals included in this study were all public hospitals, as designated under the Hospital Act. The population consisted of all of these which provide general acute care for adults and children, including medical, surgical, obstetric and pediatric services, and admit both

* The small public hospitals operated by industrial concerns and some of the nursing homes are non-profit making institutions. The remainder of the nursing homes and other privately owned hospitals are operated as business concerns for profit.

male and female patients. One small hospital, which was operated as a satellite of another, larger hospital in the same area, was omitted from the study.

The number of public hospitals in British Columbia which offer generalized acute care services is eighty-six. These constitute the majority of hospitals in the province. Omitting the one hospital which is operated as a satellite of another, the total population was eighty-five hospitals. The participants in this study were the Directors of Nursing of the hospitals.

In selecting the population to be included in the study, sampling techniques were considered but a number of variables in regard to the hospitals made it difficult to obtain a representative sample. The size, for example, ranges from one hospital with nine beds to one with over 1,600 beds. As for geographic location, twenty of the hospitals are clustered in the southwest corner of the province where three quarters of the population reside, while the remainder are scattered over the vast territory that comprises British Columbia. Although many hospitals are located in large urban centers, many more are in small rural communities, and some exist in relative isolation in remote parts of the province. The majority of the public general hospitals in the province are community or district hospitals, but a number are run by religious organizations (some as mission hospitals) and these differ from the

community-operated ones in financing, administration, and staffing.

Because of the difficulties involved in trying to obtain a sample that would be representative of the population and because the number of public general hospitals in the province is relatively small, the total population was used.

Table 1 shows the population of hospitals included in the study by size of hospital and geographic location. Categorization of the hospitals by size corresponds to that used by the British Columbia Department of Health Services and Hospital Insurance for large, medium and small hospitals¹⁵ with the exception that the small hospitals were, for purposes of this study, subdivided into two groups; those with a bed capacity of thirty to seventy-four, and those with under thirty beds.

Figure 1 is a map of British Columbia showing the location of the hospitals included in the study.

TABLE I

POPULATION OF HOSPITALS INCLUDED IN THE STUDY,
BY SIZE AND GEOGRAPHIC LOCATION

Geographic Location	Type A* 201 beds & over	Type B 75-200 beds	Type C 30-74 beds	Type D Under 30 beds	Total
Lower Mainland	6	7	4	-	17
Southern Interior	-	2	7	6	15
Central Interior	1	3	4	6	14
Northern Interior	1	3	7	2	13
Vancouver Island	3	2	7	3	15
Coastal Region	-	3	3	5	11
Totals	11	20	32	22	85

* Six of the Type A hospitals operate a school of nursing and are, for purposes of this study, designated as teaching hospitals. These are located: 3 in the Lower Mainland area, 2 on Vancouver Island, and 1 in the Central Interior.

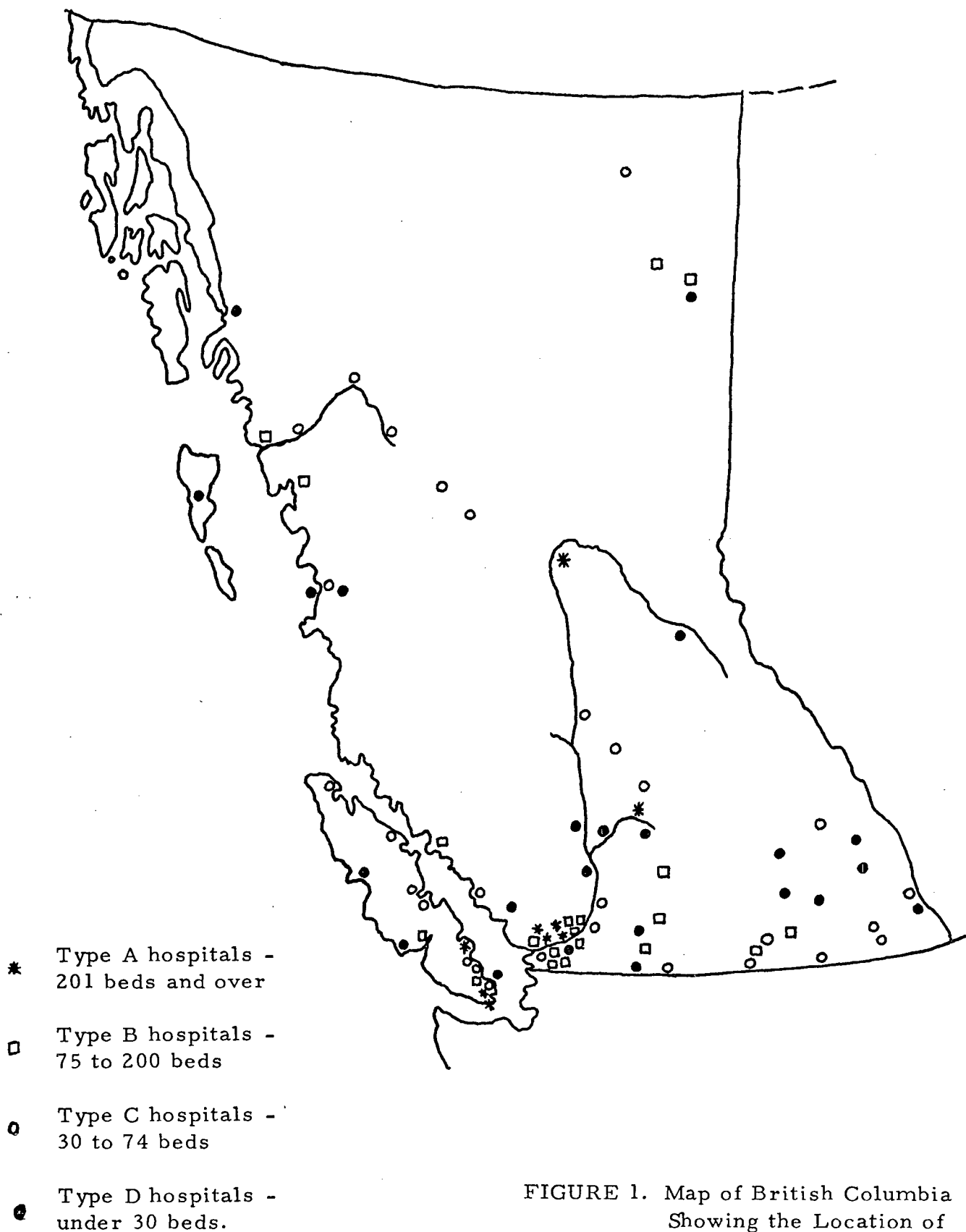


FIGURE 1. Map of British Columbia
Showing the Location of
Hospitals Included in the
Study.

Sources of Data

The Directors of Nursing of the hospitals included in the study were the primary source of data on: (1) characteristics of the hospital, the nursing and administrative personnel, and the community in which the hospital is located, (2) sources of information used in regard to changes in nursing practice, (3) the adoption of innovations in nursing.

Basic statistical information about the hospitals was obtained from the annual reports of the British Columbia Department of Health Services and Hospital Insurance. These reports provide data on bed capacity, daily patient average, staffing and facilities for all hospitals in the province. Other reports of the Department and the British Columbia Hospital Association were used for additional background information about the hospitals. The reports were supplemented by personal interviews with members of the nursing consultant staff of the Department and officials of the Hospital Association.

The records of the Registered Nurses' Association of British Columbia provided background data on the nursing community of the Province and also information about continuing educational programs for nurses sponsored by the Association and/or the University of British Columbia.

Method and Techniques

An analytical survey method was used to investigate the process of diffusion by which new information is transmitted in the nursing community of British Columbia. The social system under study was the community of graduate nurses who are employed in the public general hospitals of the province. The unit of analysis was the hospital.

A structured interview technique was employed to gather data from the head of the nursing staff of each hospital.

Construction of the Instrument

An interview schedule was designed to obtain the desired information from the Directors of Nursing. A copy of the schedule may be found in Appendix B.

The first section dealt with characteristics of the Director of Nursing herself and information about the hospital, the community, the nursing staff and administrative personnel.

The second section concerned the channels of communication used by the participants in learning about new ideas and practices in nursing. For this part of the study, a list of possible sources of information that might be used by nurses was compiled, based on the list of sources cited by Orr, Boek and Neal as being used by physicians, with suitable adaptation to nursing.^{16, 17} Additions to the list were made

during the course of the study as the Directors of Nursing suggested other sources they had found helpful. The final list of sources reported as used by the nurses is shown in Chapter IV.

The third section of the interview schedule dealt with the adoption of innovations in nursing practice by the participants. Nursing faculty members and the supervisory staffs of two of the large teaching hospitals in the Lower Mainland area were consulted as to 'what is new in nursing'. The literature was also reviewed to find examples of changes in nursing practice which might provide insight into the process by which information is transmitted. From these sources, a list of fourteen innovations was compiled for the purpose of examining the diffusion process.

The results of studies in other disciplines such as agriculture and education, have indicated that the diffusion process usually extends over a period of years for any single innovation.¹⁸ Therefore, examples of changes in nursing practice were selected to include some which had been introduced in hospitals in this Province several years ago as well as some fairly recent innovations.

Previous research has also shown that the characteristics of an innovation influence its itinerary through a social system.¹⁹ Thus, three types of innovations were included. One set consisted of changes in nursing techniques; the second, of changes in nursing routines; and

the third, of disposable equipment.

Final selection of the innovations was based on the following criteria: (1) the practice represents a change of concrete and demonstrable value in nursing practice; (2) the decision to adopt or reject the innovation is primarily a nursing matter rather than the result of changing medical practice; (3) the practice is sufficiently novel not to be in general use in all hospitals; and (4) the practice is sufficiently generally applicable as to warrant its use in all hospitals included in the study.

The following items were selected:

Innovations in Nursing Techniques

1. The Australian Lift. This is a technique used for lifting patients up in bed by two nurses using body mechanics. It appears to have originated in Australia, hence its name, although it is also sometimes referred to as the New Zealand lift, or the 'kiwi' lift.²⁰

2. Boxing Glove Mitt Restraints. These are mitts which may be made by using gauze bandages and dressing pads or may be purchased commercially. They are used for restraining confused patients from pulling out catheters or other tubing without necessarily restricting the movement of limbs or body. These have been used for

a number of years in the care of neurosurgical and ophthalmic patients but their use on the general medical and surgical wards and in intensive care units is fairly recent. The idea seems to have originated in Great Britain.²¹

3. The 'Closed Glove' Technique in the Operating Room.

This is a method of 'gloving' which precludes touching of the sterile gloves with bare hands and also eliminates the need for powdering gloves.²²

4. Sheepskin Pelts for Skin Care. These are used under bed-ridden patients to assist in the prevention of decubitus ulcers. They were first used in Australia. Initially, real pelts were used but synthetic products were subsequently developed and sold commercially.²³

5. The Urology Adaptor-protector. This is a small, disposable item consisting of a sterile cover for drainage tubing and a plug for a catheter. It is used when catheters are disconnected from drainage tubing for any purpose. The item originated in one hospital in the United States as a means of reducing the incidence of urinary infections in patients with retention catheters. The idea was picked up by one of the hospital supply houses, and the item was produced on a commercial basis.²⁴

Changes in Nursing Routines

1. 'Open' Visiting. It has been customary in the past for hospitals to have set visiting hours when friends and relatives might come to see patients. In recent years, a number of hospitals have lifted the restrictions on visiting and allow people to come and go more freely. The openness of the visiting varies, with some hospitals allowing visitors to come anytime between 2 and 8 p.m. and others permitting twenty-four hour open visiting on some nursing units.²⁵

2. Elimination of the 6 a.m. Temperature Routine. It has been traditional in most hospitals to awaken patients in the early morning to take their temperatures before the day staff come on duty. The accuracy of the temperature taken at this time and the necessity for taking the temperatures of all patients every morning have both been questioned and many hospitals are beginning to dispense with the routine.²⁶

3. Elimination of Drawsheets. A cotton drawsheet has been used traditionally on hospital beds for two reasons; it is easier to change than the bottom sheet and it covers the plastic or rubber drawsheet which serves to protect the mattress. Today, with the availability of plastic covered mattresses, the need for either a cotton or a rubber drawsheet

on the beds of most patients is questioned. Many hospitals have eliminated drawsheets as a part of the standard bed-making routine, using them only where the need is indicated.²⁷

4. Use of Colored Dresses when working with Children. Many psychologists and pediatricians have long advocated that nurses or other people attending children in hospital wear colored dresses or smocks instead of the traditional white uniform. Since the nurse, or other attendant, always puts on a gown or smock over her uniform when giving care to an infant or small child, the idea is not necessarily limited to use in hospitals which have a separate pediatric unit. It can also be used in small hospitals where there are adults and children on the same nursing unit.²⁸

The use of Disposable Equipment

The introduction of disposable equipment has saved a great many hours of nursing time formerly spent in cleaning, sterilizing, and refurbishing. The following items were selected as representative of the wide range of 'disposables' now on the market. (1) drainage bottles, (2) syringes, (3) needles, (4) medicine cups, and (5) toothettes (disposable toothbrushes).

Four of these items, the drainage bottles, needles, medicine cups, and toothettes, plus the urology adaptor-protector, were later

eliminated from the list of innovations because it was felt that undue weight was being given to the use of disposable items. One example only, the disposable syringes, was retained as representative of the group.

Procedure

Each of the eighty-five hospitals included in the study was visited by the author and a personal interview held with the Director of Nursing. The amount of time spent in any one hospital was usually from two to three hours, including the time taken for completion of the interview schedule and a tour of the nursing units. Because of the distances involved in travelling to some of the hospitals and the difficulty of scheduling visits to coincide with times when the Director of Nursing would be available for interview, the data gathering extended over a seven and one half month period, from June 1, 1968, to January 15, 1969. Since there was a difference in time of several months between visits to the various hospitals, June 1, 1968 was used as the cut-off date for adoption of innovations. If adoptions had occurred after that date, the stage in the adoption process reached was considered to be trial, rather than adoption, to equate with those hospitals visited early in the study.

The Directors of Nursing of all of the hospitals were very cooperative and no request for interview was refused.

Analysis of Data

The total population of public general hospitals in the province was used. The findings represent facts and characteristics of the population as they were at that particular point in time when the study was undertaken.

Using the data gathered during interview, three related aspects of the diffusion process was analyzed; (1) the flow of new information in nursing through the network of public general hospitals in the province; (2) factors affecting adoption, namely, characteristics of the population including both the hospital and the personnel employed within the hospital; and (3) factors influencing delay in the adoption process, rejection of new practices, or their discontinuance following adoption.

The Flow of Information through the Hospitals

Data gathered on the sources of information used by the Directors of Nursing were analyzed in four ways, on the basis of: (1) use of sources by stages in the adoption process; (2) use of sources by nature of the activity involved in the source; (3) specific sources used for each of the innovations included in the interview schedule; and (4) the patterns of communication between the hospitals.

In classifying the sources of information by nature of the activity involved in the source, four categories were used; (1)

impersonal sources, or mass media; (2) participation in short, continuing education programs; (3) attendance at professional meetings; and (4) personal sources, or interpersonal communication.

Frequency and percentage distributions^{*} were calculated to assess the importance of various sources of information at different stages of the adoption process and also the relative use of each of the four categories of sources. Flow charts were employed to trace the transfer of information about the specific innovations studied and the communication links between hospitals, as reported by the participants.

Factors Affecting the Adoption of Innovations

Most studies on adoption and diffusion have attempted to assess the relationship between characteristics of a population and adoption of innovations. Specific characteristics of the participants are usually correlated with 'innovativeness' as determined by an adoption score. Various techniques have been used to arrive at the adoption score depending on the nature and purpose of the study.

The majority of workers have used the concept of adoption or non-adoption as the basis for awarding points to determine adoption

^{*} In computing percentages, the figures were rounded off to the nearest whole number, because the data did not warrant more detailed statistical treatment.

scores. Some have given a bonus for early adoption while others have not.²⁹

Rogers, Havens and Cartano suggest an 'innovativeness scale' using sten scores based on adoption or non-adoption with weighting for earlier adoption of each item and allowance for those innovations which do not apply to a particular respondent.³⁰

In a recent study done in an urban school system in Western Canada on the relationship between adoption of new practices and characteristics of the principal and the school, Holdoway and Segel used three indices of innovativeness; number of innovations adopted; extent of use of the new practices; and time of adoption, to develop a measure of the tendency towards early adoption.³¹

Still other studies have used the degree of adoption concept as the basis for a scale to measure the extent of diffusion of an innovation through a social system. In this method, points are awarded for each stage in the adoption process reached by the participants for the various new practices and these points are totalled to give an adoption score for each respondent.^{32, 33}

Because this study is focused primarily on the diffusion process, that is, the extent to which information about new ideas and practices has spread throughout the community of nurses in the province, rather than the innovativeness of the participants per se, the concept of degree of

adoption was used in calculating the adoption score for the hospitals included in the study. The stage in the adoption process reached by the Director of Nursing for each innovation was assessed and points awarded as follows; 0 for non-awareness, 1 for awareness, 2 for interest, 3 for evaluation, 4 for trial, and 5 for adoption. These points were totalled to give an adoption score for each hospital.

From the scores thus obtained, the hospitals were divided into four adopter categories following Rogers' suggestion of innovators and early adopters as the top sixteen per cent, early majority, the next thirty-four per cent, late majority, the following thirty-four per cent, and delayed adopters, the lowest sixteen per cent.³⁴

Specific characteristics of the hospital, the Directors of Nursing, the Administrator, and the nursing staff were studied in relation to adoption, using the adoption score of the hospital as the dependent variable. The technique used to assess relationships between the dependent variable and characteristics of the population was to determine the Group Mean Adoption Score of hospitals possessing specific characteristics and the proportionate distribution of these hospitals in each of the four adopter categories, to discern observable trends.

Factors Influencing Delay, Rejection, and Discontinuance

Factors influencing delay in the adoption process, rejection of new practices, or their discontinuance following adoption were analysed

in the following manner; First, the progress towards adoption and the innovation-response state of the participants for all of the innovations were assessed to see if there were differences between adopter categories. Then, the pattern of adoption for each of the nine innovations were determined by plotting adoptions against time to see if this varied for the different items. Thirdly, the stated reasons for delay in the adoption process, rejection or discontinuance of innovations were analyzed both in relation to adopter category and to the characteristics of the innovation as perceived by the Directors of Nursing.

Perceived characteristics of the innovations were determined by analyzing the reasons given by the Directors of Nursing for adoption of the new practices, if these had been accepted and put into practice. Finally, the individuals involved in making the decision to adopt the various innovations were identified.

Frequency and percentage distributions were calculated for analysis of the data used in the four steps outlined above. In addition, graphs were employed to plot number of adoptions against time, to provide a graphic representation of the data.

V. REPORT OF FINDINGS

This study will be reported on in six sections:

Chapter II will discuss the theoretical framework on which

diffusion studies have been based in other disciplines, through a review of related literature.

Chapter III will be a descriptive chapter which discusses characteristics of the graduate nurses employed in the public general hospitals of British Columbia and the institutions in which they work.

Chapter IV will report on the analysis of data gathered on the flow of information on new nursing practices through the network of hospitals included in the study.

Chapter V will discuss factors related to adoption of innovations in nursing practice.

Chapter VI will report on the analysis of factors related to delay in the adoption process, rejection of new practices, or their discontinuance following adoption.

Chapter VII will present a final summary of the findings and discuss implications of the study.

CHAPTER I

FOOTNOTES

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CHAPTER II

REVIEW OF THE LITERATURE

The effective communication of new ideas and technology has been a major area of interest and the focus of a considerable amount of research in many disciplines in recent years. The diffusion studies, as they are called, are concerned specifically with the transmission of new ideas to members of a social system. As such, they are now considered a subset of research in the general field of communication, which includes investigation of the transfer of message units of all kinds from one individual, or group of individuals, to another.¹

The concept of diffusion as a particular branch of communications has led to a convergence of the theories pertaining to both communication and diffusion. Studies on the general nature of communications have contributed substantially to understanding of the process involved in the specific transfer of new knowledge from its source of origin to the members of a particular social system.

This chapter will discuss theories and pertinent research from various disciplines such as agriculture, marketing, education and medicine, in regard to: (1) the communications process, (2) elements in diffusion and (3) the individual innovation-decision process.

1. THE COMMUNICATION PROCESS

Early Theories

Much of our knowledge of how new ideas are transmitted has come from investigations of the influence of the mass media in our society. Research in this area began in the 1920's shortly after the introduction of radio. The 'model' of society which appears to have been popularly held at that time was that of a large atomistic mass of people, each one ready and waiting to receive a message from a powerful and influential medium, be it radio, newspaper or motion picture.

The media were seen by some as great potential sources of good, by others as forces of evil. Belief in their all-powerful influence was widespread. This belief was consistent with the prevailing theories of some social psychologists of the late nineteenth and early twentieth centuries who saw in the trend towards urbanization and industrialization a probable breakdown of interpersonal communication and subsequent control of society by a remote, impersonal source.²

The Two-Step Flow Hypothesis

Early mass media research during the 1920's and 1930's was concentrated principally in three areas: audience research, that is, who made up the newspaper-reading, radio-listening, or movie-going public; content analysis, what sorts of material appeared in the media; and impact, or effect, analysis, what kind of influence did the media have.³

The findings of an impact/effect analysis gave the first indication of need for revision of the popularly held image of a single, mass society vulnerable to powerful outside influences. A study done by Lazarsfeld and others on the role of the mass media in influencing voting behavior in the 1940 Presidential campaign in the United States revealed that the way an individual cast his vote on election day was due more to the influence of other people than to any message delivered through the mass medium of radio.⁴

It showed too that some people in a community were more influential than their fellows in persuading others to vote in a particular way. These people Lazarsfeld termed 'opinion leaders' and a "Two-Step Flow of Communication" was hypothesized to the effect that:

Influences stemming from the mass media first reach opinion leaders who, in turn, pass on what they read and heard to those of their everyday associates for whom they are influential.⁵

Since Lazarsfeld, et al, put forth this idea, studies have been done on the flow of information through the channels of communication in a

number of widely differing fields including agriculture, medicine, marketing and special interest fields of women. The Two-Step hypothesis has provided the basic framework for diffusion research in all of these areas.⁶ Reports from these studies have confirmed that interpersonal relationships and the personal communications stemming from them are more important than any other items in influencing decision-making.

The Decatur Study of suburban housewives (1945-46) which inquired into the role of personal influence in decision-making in such matters as fashions, movie-going, public affairs and marketing showed, among other things, that people talk most of all to people like themselves.⁷ This finding Rogers and Shoemaker consider one of the basic principles of human communication and they state that:

In a free choice situation, when a source can interact with any one of a number of receivers, there is a tendency for him to select a receiver who is most like himself.⁸

The term 'homophily' was used by Lazarsfeld and Merton to describe the degree to which people tend to interact with others of similar attributes, beliefs and value system, education and social status.⁹

This tendency appears to be important in the adoption of new ideas and practices. Coleman, Menzel and Katz, reporting on the findings of a study on the adoption of a new drug by physicians (1957)

stated that the extent of a doctor's communications with his colleagues, or, as they put it, his integration into the community of doctors, had a direct bearing on the time it took him to prescribe a new drug.¹⁰ In the Saskatchewan study on the diffusion of innovations among farmers (1966) it was demonstrated that the most important factor influencing the decision for continued use of a new practice was "talking with other farmers".¹¹

Opinion Leadership - towards a Theory of Influence

Much research during the 1940's and 1950's was directed towards the people who exert influence in a social culture. These are the people termed 'opinion leaders' by Lazarsfeld, Berelson, and Gaudet, and efforts were made to identify these individuals through such techniques as sociometric analysis, the use of key informants to name opinion leaders, and also through self-designating devices.¹²

It was originally thought that opinion leaders acted more or less as 'gatekeepers' of information and much research has gone into identifying the characteristics of opinion leaders in any community. Studies have shown that opinion leaders are to be found on every level of society and are very much like the people whom they influence.¹³ Their leadership appears to be related to three factors: the personification of certain values held by a particular social culture, that is, who they are; their competence, or, what they know; and their strategic social location, whom they know.^{14, 15}

It is well known that opinion leaders are more exposed generally to the mass media than the people whom they influence, and also they are more specifically exposed to content related to their particular sphere of influence.¹⁶

How opinion leaders exert their influence has also been a matter of much concern. The Decatur Study of suburban Boston housewives suggested that interaction was initiated by the followers who sought out acknowledged leaders for advice.¹⁷ A study by Merton of local and cosmopolitan influentials provides an alternative suggestion, that the influentials in a community seek out those less informed and use news as a commodity in exchange for increased prestige.¹⁸ The information-seeking-sought relationship is felt to be the elemental social structure through which interpersonal communication occurs.¹⁹

Troldahl puts forth an interesting 'balance' theory to explain how the interaction is effected. He suggests that new information, if it is inconsistent with previous knowledge, upsets the internal balance of a person's attitudes and behavior patterns. The individual, in an attempt to restore balance, seeks the opinions of others to help him either to fit the new information into his existing behavior and value systems or to reject it.²⁰

It is important, as has been borne out in many studies, that the source of information be considered both credible and reliable.^{21, 22}

Troldahl feels that there are two groups in any community, the followers and the leaders. The followers seek advice from people like themselves while leaders tend to seek technically accurate information sources, such as professional intermediaries.²³

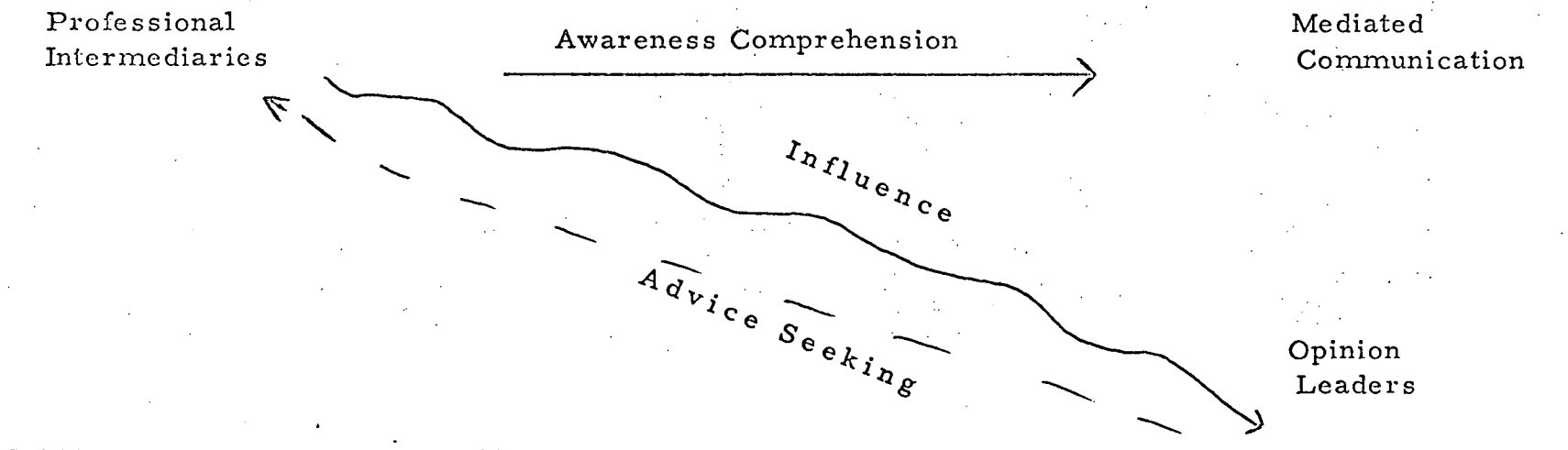
The Multi-Step Flow

The original 'two-step' flow of communication theory postulated by Lazarsfeld, et al, has undergone modification over the years as research has shed further light on the subject. Troldahl feels now that there is a one-step flow of information and a two-step flow of influence.²⁴ His model of the two cycles of influence is shown in Figure 2. Rogers suggests, too, that there are two processes involved: one is the transfer of information, the second involves the spread of influence.²⁵

Research on the use of information sources has shown that information may come from many places. Followers may become aware of new knowledge from the mass media, from commercial agents or a good many other sources in addition to personal contact with those high in influence.^{26, 27}

Wolpert, in a study on the dissemination of information to farmers in Sweden, points out that the process of communication involves not only the simple transmission of message units but also

The First Cycle of Influence



The Second Cycle of Influence

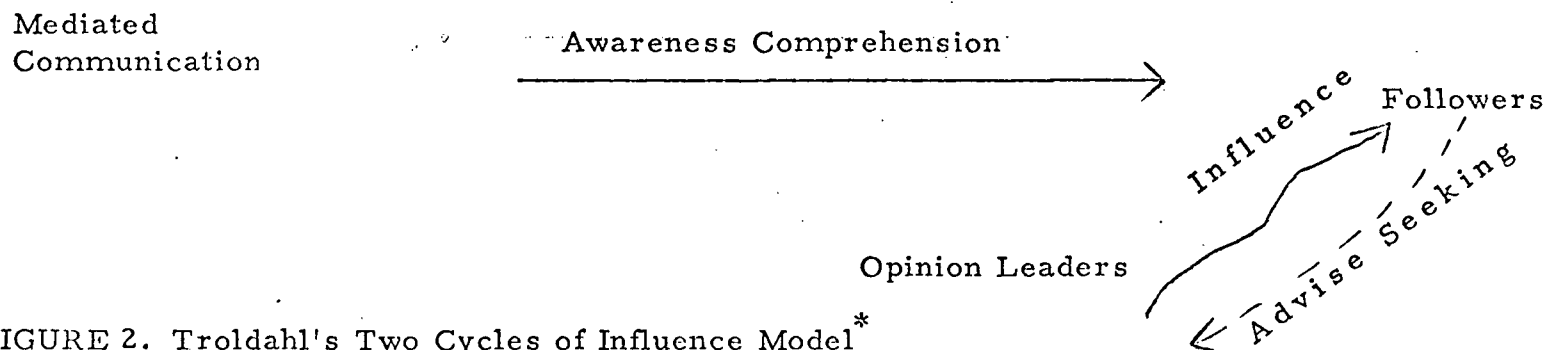


FIGURE 2. Trolldahl's Two Cycles of Influence Model*

* As shown in Werling C. Trolldahl, "A Field Test of a Modified 'Two-Step Flow of Communication' Model," Public Opinion Quarterly 30:609-623 (Winter 1966-67), p. 614.

the social interaction between members of a population. In tracing the flow of information on new farm practices over a relatively large area he used a 'multi-step process of diffusion' hypothesis to explain the process. He found that there were five steps involved:

1. The information originated in a specific area in Stockholm where teaching and research activities were concentrated.
2. The information was transferred to central offices in Stockholm for dissemination.
3. From these central offices, it was sent out to local county agencies.
4. The information was then directed to the larger farmers in the major agricultural districts. This was not intentional but occurred because these people belonged more to the agricultural associations and also sought out information from the county agent.
5. There followed an intra-county diffusion through the remainder of the community of farmers.

On the basis of his findings, Wolpert suggested a modified version of the Two-Step Flow model (Figure 3) showing two stages in the communication process:

1. The external flow -- from the experts to the farmers. The speed of this depends on two factors: a) the potential of membership

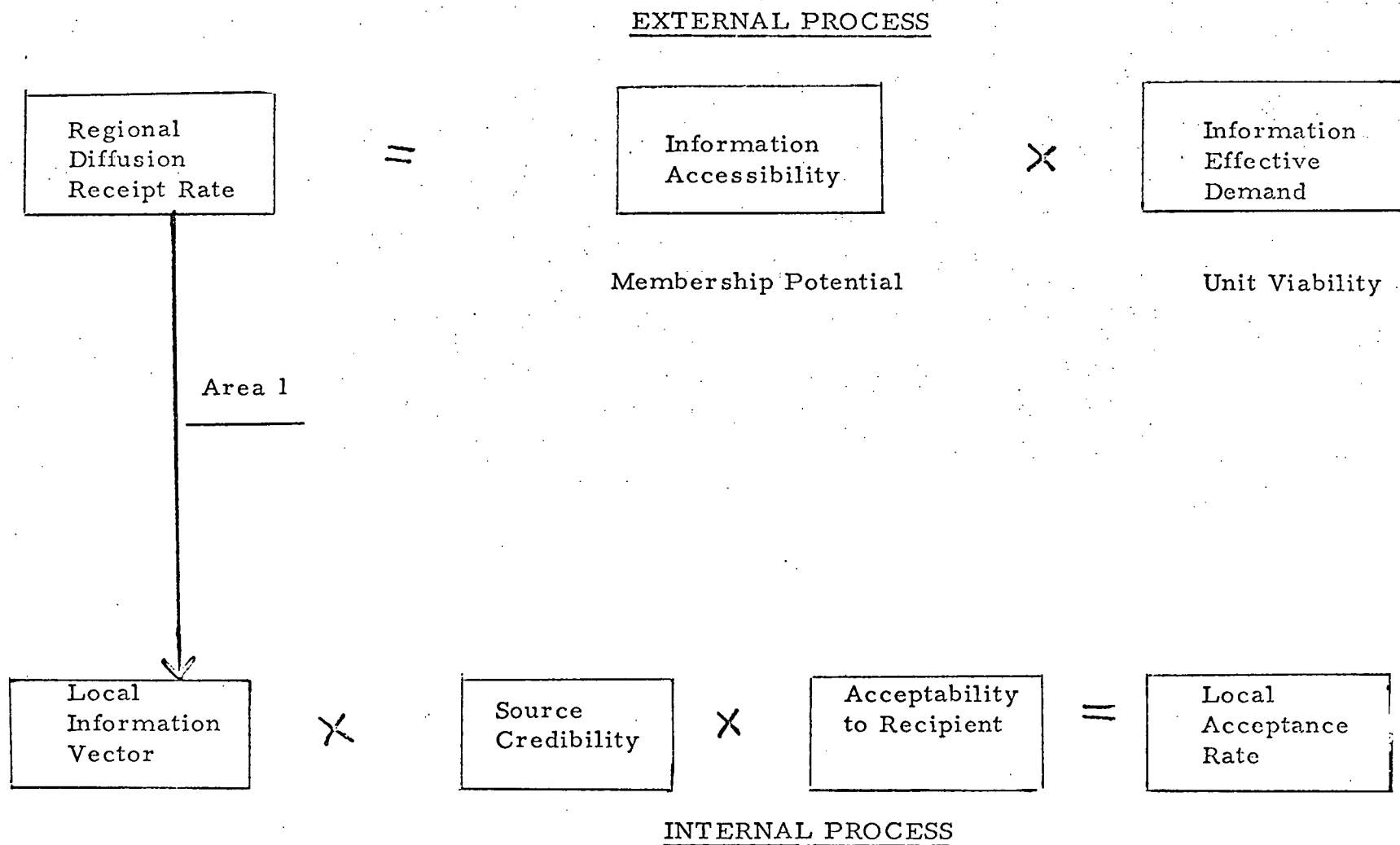


FIGURE 3. Wolpert's Regional Model of Information Diffusion and Acceptance*

* As shown in Julian Wolpert, "A Regional Simulation Model of Information Diffusion", Public Opinion Quarterly, 30:597-608 (Winter 1966-67), p. 604.

in local agricultural societies; and b) the demand for information, based on the number of large farmers in the area.

2. The internal flow through the farmers. This, he felt, depended on three probability rules:

- a) the likelihood that farmers would direct information to other farmers in their own category
- b) the likelihood that information received would be believed
- c) the likelihood that larger farmers would need less contact with new information before accepting it than smaller farmers.²⁸

It would appear, then, that the process of communication can no longer be considered a simple two-step transfer of information from expert to opinion leader to less active members of a community. Instead, one must accept that there are two distinct processes involved: one, the transfer of information(or message units), the other, the spread of influence. Instead of a two-step diffusion pattern, there is, rather a 'multi-step' flow of communication.

II. ELEMENTS IN THE DIFFUSION PROCESS

Katz defined diffusion research as the study of "the adoption of an item over time, by units of adoption, linked together by channels

of communication, social structure and a system of values ",²⁹

Rogers and Shoemaker consider that there are four essential elements in the diffusion process: (1) the innovation, (2) the communication channels, (3) the time involved and (4) the social system.³⁰

The Innovation

An innovation is defined as an "idea, practice, or object that is perceived as new by an individual."³¹ The actual length of time since the idea was first used is not the important aspect. Rather, it is that the individual sees it as a new idea or practice, and, therefore, it is an innovation to him.³²

Fliegel and Kivlin pointed to a lack of research on the variability of the innovation as one weakness in the majority of studies on diffusion and suggested that differences in the item which is being transmitted are important variables in its diffusion.³³

The idea that the innovation itself constitutes a variable and that a classification of innovations on the basis of common characteristics should be done was put forth as early as 1922 when Ogburn divided inventions into two categories, material and non-material, but the amount of research that has gone into systematically classifying innovations has been limited.³⁴

Katz suggested one classification for items on the basis of their attributes of communicability, pervasiveness, risks involved and reversibility.³⁵ Rogers used a classification based on the potential adopter's perception of the new idea with regard to: relative advantage over previously used practices; compatability with existing values and experience; complexity of the idea; its divisibility for trial purposes; and its communicability.³⁶ Rogers and Shoemaker now use the term 'trial-ability' in preference to 'divisibility for trial purposes' and also suggest the word 'observability' be used to denote the visibility of results of an innovation instead of the less precise term 'communicability'.³⁷

Havens (1961) investigated the effect of the subjective definition of a situation by potential adopters on the rate of adoption of a new farm practice. They found that when individuals see a situation as presenting no alternatives to adoption, acceptance of the innovation occurs regardless of other factors.³⁸

Brandner and Kearl (1964) studied the effect of congruence (or similarity) with other practices previously adopted on the rate of adoption. They found this to be highly significant in that farmers who had previously adopted hybrid seed corn adopted hybrid sorghum more rapidly than those who had not.³⁹

Fliegal and Kivlin in their study to correlate the rate of adoption of modern farm practices with the farmers' perception of the innovation, found that innovations which were the most rewarding and least risky were adopted most rapidly and that direct contribution of the innovation to the major occupational interest of the individual enhanced adoption. On the other hand, high costs were not a brake to adoption in the relatively high income level community studied, nor were complexity of the practice or pervasiveness of consequences significant.⁴⁰

In the field of education, two recent studies are noteworthy. Camaren (1966) investigated the attributes of innovations as variables influencing differentiation in the social itinerary of new practices. He found the diffusion of innovations to be the result of a complex set of elements, one of which is the nature of the innovation, its attributes with regard to costs, divisibility, intrinsic and extrinsic rewards, pervasiveness, compatability and legitimacy.⁴¹ Another study by Kohl (1966) found that the attributes of an innovation were significantly correlated with critical stages of the adoption process. Complexity and divisibility were important at the interest stage, as well as compatability with existing practices and values. The compatability factor was the single most significant element at the adoption stage.⁴²

Communication Channels

The Original Source and Agents conveying information

New ideas may originate within a social system or may enter from an outside source. In the case of scientific or technological information, the source is usually a research scientist, opinion leader or change agent.⁴³ Miles takes the view that an innovation is a change which is deliberately planned.⁴⁴ An agent wishing to effect a change often delegates the task of transmitting the message to a specific individual called a 'change agent', defined by Rogers as "a professional person who attempts to influence decisions in a direction he feels is desirable".⁴⁵ Rogers considers the change agent to be the link between two social systems and feels that the extent of a change agent's promotional efforts is directly related to the rate of adoption of an innovation.⁴⁶

In farming, two types of change agents have been identified, the extension specialist, and the county agricultural agent. Many of the early studies in rural sociology dealt with the role and functions of the county agent. A study by Armstrong (1959) analyzed county agent activities and the adoption of soil-building practices,⁴⁷ and McHenry in 1960 completed a comprehensive analysis of the functions and teaching methods of the county agricultural agent and the extension specialist. He found that, while the basic function of both was to disseminate information on new knowledge, the methods used were different, the

specialist concentrating more on mass media communication, while the county agents emphasized individual contacts.⁴⁸

In medicine, the chief research concerning agents in the communication process has been on the role of the 'detail man', or drug salesman, in influencing the adoption of new drugs by physicians. Much of the work in this area has been in marketing research by commercial firms interested in the sale of drugs. A comprehensive study of the role of the detail man in affecting decisions of doctors to adopt an 'ethical' innovation was, however, undertaken by Rehder at Stanford University and reported in his doctoral dissertation (1961).⁴⁹ The drug salesman appears to be a key link in the communications process of transmitting information about new drugs to practising physicians.

It is interesting to note that, in a recent study of the diffusion process in Saskatchewan farming communities, the role of a commercial agent, the farm dealer, in the communications process was noted and it was felt that the influence of this individual should be given more attention in diffusion and adoption studies in agriculture.⁵⁰

Troldahl uses the term 'professional intermediaries' to designate the conveyors of 'technically accurate' information, citing as examples the county agricultural agent, the scientist and the commercial agent.⁵¹

Eichholz and Rogers point to a lack of change agents in the educational field to promote new ideas as one of the reasons for the slow diffusion of new knowledge in the school system. The school principal is probably more akin to the county agricultural agent in position as a communications link between two social systems but, in a study done by Eichholz, it was found that only one out of five principals acted as a change agent.⁵² The amount of influence of administrative personnel in bringing about changes in a school system was investigated in studies done through the Department of Curriculum and Teaching at Columbia University's Teachers' College. It was found that school principals were very influential in the diffusion process; supervisors, while having less direct authority than principals, often had considerable influence; while the school superintendent, in many instances, had the most powerful influence of any single participant.⁵³

In nursing, a development in recent years has been the rise of the 'nurse consultant' whose function is to advise the staff of hospitals and agencies on improved methods in nursing practice and administration. This individual may be attached to a professional organization or government agency and appears to assume much the same role as the extension specialist in agriculture. She might, therefore, be categorized as a 'change agent', according to Rogers' definition of the term, or as a 'professional intermediary' by Wolpert. An early study by Frazier (1953) outlined a guide for consultants in

the nursing education field.⁵⁴

The Mechanism by which the Message is Transmitted

The channels through which information is relayed have been the subject of a great deal of research in all disciplines concerned with diffusion. Practically all studies have included a survey of how the potential adopters first heard of innovations and the relative importance of various sources of information in influencing their decision to adopt or not adopt an innovation.

Rogers categorized the channels of communication into two: impersonal sources of information and personal communication. Impersonal sources include all communications via the mass media, and constitute a rapid, one-way, and efficient means of dispensing information. These are felt to be most important in the early stages of the adoption process. Personal communications (or interpersonal) imply a face-to-face two-way exchange process which is more likely to influence behavior when judgment of an innovation is being made.⁵⁵

An essential factor in the use of information sources is whether the source is both accessible and reliable. Leuthold mentions that the most significant finding of the studies done in Saskatchewan on the transfer of information to farmers was that "farmers' interpersonal communication with one another is a more meaningful factor for continued use (of an innovation) than any other factor studied".⁵⁶

In the medical field, both impersonal and personal sources of information have been investigated. Caplow and Raymond, in one of the earliest medical studies, examined the role played by various methods of communication in persuading physicians to adopt a new pharmaceutical product.⁵⁷ Orr and Boek identify as one of the major groups of studies on communication to physicians, those dealing with channels of communication. They list as communication channels used by physicians: post-graduate courses, conferences and meetings, exhibits, colleagues, motion pictures, sound recordings, radio, television, journals, detail men, and direct mail.⁵⁸ Neal adds books and publications of insurance and drug companies, also health agencies, to the list.⁵⁹ Reports of the studies confirm the findings of rural sociologists that impersonal communications are important in the early stages of the adoption process, while personal contact with peers is more likely to affect the decision to adopt in the later stages.^{60, 61}

In education, Mort suggested that the early slow diffusion period for innovations in educational practice was in part due to lack of communication. Much has been done subsequently to find new and improved methods of communicating information about research findings in education and a number of periodicals bearing such titles as Exchange, Central Ideas, and Know-How were especially designed for this purpose, in addition to the more scholarly educational research journals.⁶²

On the subject of channels of communication, the members of the Surgeon-General's Committee on Communications in the Health Field stated that, in their opinion, continuing education programs provide the best means for the communication of scientific information to health practitioners.⁶³

In nursing, there has been a marked increase in the number of continuing education programs offered, and much interest in this field in recent years. Research undertaken to date, however, has been principally concerned with the in-service aspects of continuing education. One study by Norris (1955) suggested content for an in-service educational program for nurse teachers⁶⁴ while another by Straut (1964) reported on increased job satisfaction of nurses following participation in an in-service program.⁶⁵ A recent study by Price (1965) analyzed the perceived learning needs of nurses in an attempt to assess content for in-service programs.⁶⁶

Time

Rate of Adoption

It has been demonstrated that the adoption of new ideas or practices within a social system follows a definite and predictable pattern. Initially, there is a slow early diffusion period during which the idea is tried out by a small group. There follows a period of rapid acceleration when it is accepted by the majority and culminates in

another relatively slow period of time for the few remaining members of the system to adopt as well. The diffusion curve often takes on a typical 'S' shape when it is plotted on a cumulative basis or follows the bell-shaped curve of normal distribution when done on a non-cumulative basis.^{67, 68, 69}

The amount of time required for the total process is usually a matter of several years. In farming, it has been found that even relatively simple changes may take ten or twelve years from initial introduction to total acceptance in a community.⁷⁰

The early studies in education showed that change in the American school system came about even more slowly, with fifty years elapsing between the insight into a need and the introduction of a way to meet it.⁷¹

Rogers suggested that a crisis may speed up the diffusion process or retard it,⁷² and, certainly, the appearance of the first Russian 'sputnik' did much to accelerate changes in the American school system.⁷³ Miles documents his belief that change is proceeding more rapidly in education than it did twenty-five years ago with examples of the adoption of programmed learning at a faster rate than would have been predicted on a basis of earlier studies, and also the rapid proliferation of language laboratories, and the use of teacher aides and team teaching.⁷⁴

It would appear that increased knowledge on the subject of communication and improved techniques that have been developed in recent years, together with greater contact of the public in general with the mass media, have all had an effect on the acceleration of changes in our society.⁷⁵

The Surgeon-General's Conference on communications strongly emphasized the need for even more rapid dissemination of information on new knowledge and technology to practitioners in all of the health fields.⁷⁶

Individual variations in rate of Adoption

The majority of studies dealing with diffusion have attempted to correlate characteristics of the potential adopters with the rate at which they accept innovations and put them into practice.

Rogers and Beal initially divided the adopters into five categories: innovators, early adopters, early majority, late majority and laggards.⁷⁷ It has been suggested, and borne out in various studies, that the distribution of these groups tends to follow a normal curve.⁷⁸

The trend in previous studies has been to use the Mean of the 'adoption scores' obtained by a population (or sample of a population) and Standard Deviations from the Mean to divide adopters into the respective categories.⁷⁹ Rogers is now of the opinion that the division should be

on a percentile basis with the innovators and early adopters compressed into one group, comprising the top sixteen per cent of the scores. The next thirty-four per cent would be the early majority, while the late majority would include the following thirty-four per cent and the laggards the bottom sixteen per cent.⁸⁰

Various researchers have attempted to identify specific characteristics distinguishing each group but their findings have not always been in complete accord.⁸¹ There seems to be a general consensus of opinion among rural sociologists, however, that there are distinctive characteristics separating the early from the late adopters in any farming community. There is always a small group of advance scouts who are willing to try out a new idea before the rest of the members of a community. These are the innovators who tend to be more cosmopolitan in their reference groups, are referred to as being 'a little different' by their fellows, and seek sources of information outside the community to which they belong. The innovator is not particularly concerned about the opinion of others in his own locality. The early adopters tend to be younger, that is, not past middle age, and to have a better socio-economic status than others in their community. They belong to more formal organizations especially those concerned with their work. The majority of early adopters are acknowledged leaders in the community and their views are held in respect. They seek highly creditable sources of information before

trying out a new practice, conferring with the county agent and specialists from the agricultural colleges. Their adoption influences, to a large extent, subsequent adoption by the remainder of the community.

Late adopters, on the other hand, appear to be more security oriented than early adopters. They usually have smaller land-holdings and fewer home improvements. They tend to confine their activities to purely local groups, both socially and occupation-wise.^{82, 83, 84, 85}

Menzel, Katz and Coleman, in their studies of the diffusion of innovations among physicians, report much the same findings relative to personal characteristics associated with early adoption. The innovators among the doctors are emancipated from the local norms of their medical community and early adoption is positively correlated with financial and social status, as well as membership in professional organizations.⁸⁶

In the field of education, early studies confined the area of research to the school or school system as the unit of analysis for measuring adoption. Studies were done correlating the characteristics of the community with the degree of innovativeness of schools within a particular system. Ross (1958) found that schools which were most innovative were ones in which the teachers attended more out-of-town meetings and read more widely to find new ideas, also that the more

innovative school systems are to be found in higher income level communities where there is a greater school tax support.⁸⁷

Carlson pointed out the need to take the individual school superintendent into consideration as a key factor in influencing change in the school system, since his approval is required before a new practice is adopted.⁸⁸ His study, and one by Jensen (1967), indicated that social structure variables such as social network involvement and status with regard to other superintendents, as evidenced by prestige, professionalism and educational attainment, were positively correlated with the rapidity of adoption of innovations.⁸⁹ Subsequent studies by Peterson (1968) and Hensley (1968) have confirmed the importance of the role played by the school superintendent as a principal 'gate-keeper' for major educational innovations.^{90, 91}

'Innovativeness,' or tendency to adopt innovations earlier than other members of a social system, as the term is used above, has in the past been considered to be a single entity. Recent research by Holdaway and Seger suggest that there may be three factors involved in the general characteristic of innovativeness: number of innovations adopted of any given set, extent of adoption of the innovations, and time of adoption. Their study indicates, as has been found in other research, that early adoption of one innovation does not always ensure early adoption of all others.⁹² There appears to be some shifting

within the categories for various types of new ideas although "it is doubtful that an individual who is an innovator for one idea is a laggard for another idea".⁹³

The Information Spreads Through a Social System

Information about new ideas and practices flows through a complex system of social relationships and acceptance of an innovation by one individual influences the decision to adopt it or not by other members of a community. Rogers states that "in one sense, adoption of an innovation may be viewed as conformity to group pressures which become more intense as a higher percentage of adoption is reached for a particular innovation in a social system!"⁹⁴ The innovators may stand a little apart from the group and, by virtue of having a higher socio-economic status, better education and more externally oriented outlook, are freer from the dangers of ridicule and less susceptible to group pressures.^{95, 96}

Once an innovation has been tried out by the experimenters and found successful, its diffusion through the social system is largely influenced by the 'opinion leaders' who are most representative of the formal leadership of the community and are those from whom others seek information and advice.^{97, 98} Rogers states that the social system norms on innovativeness determine the degree of innovativeness or traditionalism of the opinion leaders who reflect the generally held

views of a community.⁹⁹

One of the early studies in rural sociology, reported on by Hoffer and Gibson in 1941 analyzed the relation of social factors to success of agricultural extension work in four Michigan communities. The authors concluded that:

No single factor or circumstance in a community situation determines the responsiveness of farmers to agricultural extension programs. Responsiveness is determined, rather, by a net-work of social influences and circumstances among which the leadership organizations and group morale among farmers are very important. These are affected in turn by economic conditions and community organizations.¹⁰⁰

Lionberger did much research in the area of social and cultural values and their relationship to the adoption of innovations. He emphasizes the need to detect values that operate within a given community as influencing both the attitude toward change and the integration of a new idea or practice into the existing patterns of life.¹⁰¹

The studies in Saskatchewan analyzing the diffusion process in different communities provide further evidence of this. It was found there that differences between communities such as the degree of technological advancement, ethnicity and time of settlement, the educational level of the community and opportunities for contact with communications media are all factors which have an important

influence on the rapidity with which new ideas and practices are diffused and adopted.¹⁰²

In nursing, Coe and Barnhill investigated the social dimensions of a failure in innovation in nursing practice. They found that the disturbance in social structure of a nursing unit caused by the introduction of a new method for ordering and dispensing medications was a major factor contributing to the failure of personnel to accept the new practice.¹⁰³

III. THE INNOVATION-DECISION PROCESS

Rogers, Beal and Bohlen have stated that "for any individual the adoption of a complex new farm or home practices is not a single unit act", and they pointed out the similarity between the adoption process as it applies to farm practices, the anthropologists' concept of diffusion and some of the learning theories put forth by social psychologists.¹⁰⁴

Wilkenning suggested that there were four stages in the adoption process.¹⁰⁵ The most commonly accepted view, however, is the five stage concept first postulated by a panel of rural sociologists. These stages are:

1. awareness - when the individual is first exposed to the new idea
2. interest (or information) - the individual is motivated by curiosity and interest to seek further information
3. evaluation (or application) - ' mental trial ' when the individual considers the relative advantages and disadvantages of the idea and whether it may be useful in his particular situation.
4. trial - the individual experiments with, or tries out, the idea and information regarding techniques and method is sought
5. adoption - the idea is evaluated and, if satisfactory, there is a decision for continued use¹⁰⁶

There are many variations in the time elapsing between the successive stages and sometimes there may be no clearcut distinction between them. There appears to be some inconsistency amongst researchers in differentiating between the stages of trial and adoption. The Coleman-Menzel drug study, for example, used the date of a physician's first prescription of a new drug as the date of adoption.¹⁰⁷ Lionberger, on the other hand, uses the term 'trial' to designate when a little of the new practice is attempted and reserves 'adoption' for "full and continued use" of an innovation.¹⁰⁸

Rogers and Shoemaker

also suggest that the fourth stage involves small-scale trial and indicate that the final stage may involve a decision for either adoption or rejection.¹⁰⁹ They prefer to use the term 'innovation-decision process' rather than 'adoption process' feeling that this allows for both positive or negative decisions. Other factors mentioned previously in connection with the characteristics of innovations, such as congruence and compatability with the existing norms, are influential not only in the decision to adopt or not adopt a new idea, but also in the time taken to reach a decision.¹¹⁰

CHAPTER II

FOOTNOTES

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CHAPTER III

POPULATION AND PARTICIPANTS

The total number of hospitals in British Columbia at the beginning of the year 1968 when this study was undertaken was 126.* These included ninety public general hospitals, eight Red Cross Outpost hospitals, seven contract hospitals, five Federal Government hospitals, five public rehabilitation hospitals, and one rehabilitation hospital operated by the Provincial Government.¹

The population in this study includes all of the public general hospitals in the province, exclusive of four which offered limited services only and one which was run as a satellite of another larger hospital.

* This figure covers all of the public and other non-profit making hospitals in the province.

I. GENERAL INFORMATION ABOUT THE HOSPITALS

Organization and Control

The hospitals in British Columbia are organized and operated under a Provincial Hospital Act. The responsibility for administering the Act is vested in the Provincial Department of Health Services and Hospital Insurance.

Each hospital is operated by its own Hospital Society. The majority of public general hospitals in the province are community, or district hospitals and any resident of a community may become a member of the Society by paying a one dollar annual fee. The hospitals are managed by Boards of Directors elected from the general membership of the Hospital Society with appointed representation from the Provincial Government and the Regional Hospital Planning Board. The Hospital Board is required to report to the membership of the Hospital Society at its annual meeting.²

Financing

Both the community and the government share in the financing of public general hospitals in the province. To facilitate regional planning, development and financing of hospital projects, the Regional Hospital Districts Act and the British Columbia Regional Districts Financing Authority Act were passed in 1967. The former divides the

province into twenty-nine large districts for cooperative regional planning while the latter established a Provincial Government authority for the financing of hospital projects similar to that used for schools.³

Under the two District Acts and the Hospital Act, the Provincial Government makes grants to non-profit organizations to assist in the construction and equipping of hospitals. For major construction, the Government pays to each district sixty per cent of the costs for an approved hospital project, after deduction of Federal Government capital grants and items which are considered the district's responsibility. The Federal Government's contribution for major construction is fourteen per cent. For equipment and renovations, the Provincial Government contributes thirty-three and one-third per cent. The hospitals are responsible for making up the difference between government grants and total costs for major construction, renovations and equipment. In the case of the community or district hospitals, the largest source of revenue is through local tax levy.⁴

Money for operating costs of the hospitals comes jointly from the Federal and Provincial Governments through the Federal Provincial Hospital Insurance Plan. Administration of the funds is by the Provincial Government which pays an all-inclusive per diem rate to hospitals for the care of patients requiring acute medical treatment or active rehabilitation and extended hospital care. Payments made

to hospitals cover all but one dollar of the approved per diem rate for each hospital. The daily rate covers the cost of all regular hospital services, including X-Ray, laboratory and operating room, in addition to bed, board, and nursing care.

The patient pays the remaining one dollar a day as co-insurance under the Provincial Hospital Insurance scheme. This fee entitles the patient to public ward accommodation, usually in a four to six bed unit, and the use of all hospital facilities. Patients may elect to pay an additional amount for semi-private or private room accommodation at a rate specified by the hospital,⁵ although some hospitals have dispensed with this, preferring to allocate beds on a basis of the patient's need rather than his ability to pay.

Maintenance of Standards

The British Columbia Department of Health Services and Hospital Insurance is responsible for the maintenance of standards of hospitals in the province. The Hospital Consultative and Inspection Division of The Department provides public and private hospitals with consultative services and maintains an inspectional program to ensure that basic standards are met.⁶

In addition, hospitals wishing to do so, who meet the necessary criteria, may apply for national accreditation by the Canadian Council on Hospital Accreditation. This is a voluntary body, governed by a Board

of Directors composed of representatives from the Canadian Hospital Association, the Canadian Medical Association, L'Association des Medecins de Langue Francaise and the Royal College of Physicians and Surgeons.⁷

At the time this research was in progress, thirty-three of the hospitals included in the study were accredited. These included all of the large hospitals, eighteen of the medium-sized hospitals, three of the small hospitals (from thirty to seventy-four beds), and one hospital under thirty beds.

The Community and the Hospital

The communities in British Columbia appear to be deeply interested in the hospitals. All but two of the Directors of Nursing interviewed felt that the communities supported the hospital and its policies all or most of the time.

Practically every hospital (95 per cent) had at least one Women's Auxiliary with some reporting as many as seven, one for every small community which the hospital served. One-half of the participants (56 per cent) said there was also a Junior Auxiliary, or Candy-Striper program, for teen-age volunteers. In addition, there were Future Nurses' Clubs in the high schools in fifty-six communities and these Clubs usually had a close liaison with the hospitals.

The volunteer groups provide many useful services and amenities for patients and also help to raise funds for the hospital. Much of the money they raise goes towards the purchase of equipment for which the hospital must pay two-thirds of the cost, while the government contributes one-third.

The Hospital Board

Of the eighty-five hospitals included in this study, the majority were community, or district, hospitals. The remainder were operated by private organizations as non-profit-making institutions for the care of acute patients. Eighteen of the participating hospitals were run by religious organizations, six of these as mission hospitals.

Each hospital had its own Hospital Society, in accordance with the provisions of the Hospital Act, and was managed by a Board of Directors. The communities appeared to be actively involved in the management of the hospitals. In addition to the government and, in the case of the hospitals run by religious organizations, church representatives, all hospitals reported that there were at least two or three community members on the Boards and the majority, (79 per cent) stated that there were more than seven Board members from the community at large.

Most of the Directors of Nursing felt that the community was properly and adequately represented on the Hospital Board. Only eight

(9 per cent) felt that it was not.

The Chairman of the Board was, in almost all instances, a local business or professional person. Only three hospitals reported that the Chairman was a physician and these were all mission hospitals.

Under the Hospital Act, paid employees are not permitted to be voting members of the Hospital Board of Directors. The administrator almost invariably attends meetings, however, as liaison between the Board and the hospital staff and frequently acts as Secretary to the Board.

In approximately one-half of the hospitals studied (49 per cent) the Director of Nursing also attended Board meetings on a regular basis. In the other half, she attended by invitation only.

There were very few doctors on the boards of management of any of the hospitals studied. Forty-six (54 per cent) reported that there were no doctors on the Board, thirty-four (40 per cent) that there was one only, and five (6 per cent) said there were two to three.

The Administrators

The administrator is the executive head of the hospital. He is responsible for overall management of the hospital plant, preparation and administration of the budget, and supervision of all departments. He is, then, in a top policy and decision-making position with regard to all hospital matters.

The majority of administrators of the hospitals included in the study had had university preparation in the field of hospital management. Fifty-two of the participants (61 per cent) reported that the administrator had had special preparation in hospital administration. Fourteen administrators (16 per cent) were local business men (usually accountants) and five (6 per cent) were physicians. Among the remaining hospitals, the Director of Nursing was also the administrator in two instances and in the others the administrators were members of religious orders. In the latter case, these individuals had almost always had courses in hospital administration.

One of the measures of prestige among hospital administrators is affiliation in the American College of Hospital Administrators. There are three degrees of affiliation, nominee, member and fellow, each indicating increasing status in the organization. Thirty-two (38 per cent) of the administrators of the participating hospitals were affiliated with the College. Of these, nine were employed in large hospitals, ten in medium-sized hospitals, eleven in hospitals from thirty to seventy-four beds and two in hospitals under thirty beds.

II. THE DIRECTORS OF NURSING

The Director of Nursing is the head of the nursing department within a hospital. She is directly responsible to the administrator for

management of her department and is, in turn, responsible for the nursing staff of the hospital. In the large hospitals, this may involve as many as fifteen hundred people, in the smallest, as few as six to ten. In the large hospitals, the position is usually mainly administrative in function while in the smaller hospitals of the province the Director of Nursing may be directly involved in patient care. In the absence of a qualified pharmacist in most of the smaller hospitals, she is in charge of drug supplies, often functions as X-Ray technician, and usually assists in the operating room on surgery days.

General Information about the Participants

All of the Directors of Nursing of the hospitals included in this study were women. All stated that they enjoyed nursing, sixty-nine (81 per cent) said 'very much', the remainder 'most of the time'.

The median age category was forty-five to forty-nine years. There were only nine participants under the age of thirty-five (11 per cent) and three (4 per cent) over the age of sixty. There were an equal number of single and married women in the group, as well as twelve widows and five who were either separated or divorced. Forty (49 per cent) had children, with fourteen of these having three or more.

One-half of the participants (51 per cent) were graduates of British Columbia schools of nursing, one from the basic degree course at the University of British Columbia, the rest from hospital diploma

schools in the province. Of the remainder, another one-third (33 per cent) of the total group had taken their basic nursing programs in other provinces in Canada while fourteen (16 per cent) were graduates of schools in other countries.

Professional Experience

Two-thirds of the Directors of Nursing (69 per cent) had graduated from their basic nursing programs more than twenty years ago and had been employed in nursing for over twenty years. Fifty-eight per cent of the total group had worked continuously in nursing since graduation, while the remainder had had interrupted careers.

Over one-half of the participants (59 per cent) had moved up to Director of Nursing from other positions in the same hospital. In the case of the small hospitals, this had usually been from a staff nurse position to head of the department. In the larger hospitals, the move was most often from assistant director or supervisor. Fifteen of the participants (18 per cent) had been Directors of Nursing in other hospitals prior to accepting their present positions, two had been teachers of nursing, two public health nurses and seven, head nurses.

The tenure of the Directors of Nursing was short. The average length of time the participants had been in their present position was three years. One-half (49 per cent) reported that they had been appointed less than three years ago. The nurses appeared to stay longer in smaller

hospitals. There were more Directors with over five years of service in the same position amongst the medium and small hospitals although even in these cases, the proportion was less than one-quarter of the total. No Director of Nursing had been in her present position more than twenty years.

Academic Preparation

There were five Directors of Nursing (6 per cent) in the participating hospitals who held a master's degree and thirteen (15 per cent) with a baccalaureate degree. Fourteen (16 per cent) had from one to two years of university work in addition to their basic nursing programs, while fifty-three of the total eighty-five (62 per cent) had academic preparation to the level of the minimum requirements for entrance to a school of nursing.*

As one would expect, the Directors of Nursing in the teaching hospitals were better prepared academically than their colleagues in non-teaching hospitals. The majority of the nurses holding baccalaureate or higher degrees were employed in the larger hospitals, seven in the hospitals over 200 beds and seven in the medium size hospitals (75 to 200 beds). Four were in hospitals from thirty to seventy-four beds.

* In most cases this was Junior Matriculation or the equivalent of University Entrance in British Columbia.

The academic preparation of the participants by size of hospital and teaching status of the institution is shown in Table II.

Preparation beyond Basic Nursing Education

Table III shows the number of respondents who had participated in post-basic education programs by type of course taken. Over one-third (34 per cent) of the Directors had taken various hospital post-graduate courses, twenty-five (29 per cent) had taken university certificate courses (usually of one year in length), while twenty-eight (33 per cent) had taken, or were currently enrolled in, the Canadian Nurses' Association correspondence course on Nursing Unit Administration. Eight of the nurses who had taken the correspondence course were from medium-sized hospitals (75 to 200 beds), the remainder from hospitals with under seventy-five beds.

Participation in General Adult Education Programs

A large number of the participants, forty in all (47 per cent), had taken night-school or correspondence courses through adult education programs. For most, these had been courses of a general interest nature including such things as typing, sewing and ceramics, although four reported having taken courses for credit towards a baccalaureate degree in nursing or some other field.

TABLE II
LEVEL OF ACADEMIC PREPARATION OF
PARTICIPANTS BY SIZE AND TEACHING STATUS
OF THE HOSPITAL

* Hospital	Minimum Requirements	1 - 2 yrs University	Baccalaureate Degree	Master's Degree	Total
Type A					
Teaching	-	1 17%	2 33%	3 50%	6 100%
Non-Teaching	2 40%	1 20%	1 20%	1 20%	5 100%
Type B	8 40%	5 25%	6 30%	1 5%	20 100%
Type C	24 75%	4 13%	4 13%	-	32 100%**
Type D	19 86%	3 14%	-	-	22 100%
Totals	53	14	13	5	35

*Type A - 201 beds and over, Type B 75-200 beds, Type C 30-74 beds, and Type D under 30 beds

** Percentage figures have been rounded off to the nearest whole number and therefore do not total exactly 100%

TABLE III
POST-BASIC EDUCATIONAL PROGRAMS
TAKEN BY DIRECTORS OF NURSING

Type of Course	Number of Participants	Per Cent of Total Population
Hospital Post-Graduate	29*	34%
University Certificate	25**	29%
Canadian Nurses' Association Correspondence Course on Administration Nursing Unit	28	33%

* 6 of these participants held a baccalaureate or higher degree.

** 8 of these participants subsequently attained a baccalaureate or higher degree.

Participation in Continuing Education Programs for Nurses

The Availability of Continuing Education Programs

The Registered Nurses' Association of British Columbia is the principal coordinating body for continuing education programs for nurses in the province. The professional nursing association has, in the past, taken much of the responsibility for organizing and conducting educational programs for its members through institutes, workshops and conferences held in Vancouver and in various regional centers throughout the province.

Major responsibility for short, continuing education courses for nurses is gradually being assumed by the Departments of Continuing Education of the Faculty of Medicine and the School of Nursing of the University of British Columbia with co-sponsorship from the nursing association.

In the five years immediately prior to this study, there had been a total of seventy-seven of these courses sponsored by the Registered Nurses' Association and/or the university. Two series of regional institutes, held in various centers throughout the province, accounted for a total of forty of these courses. The remaining thirty-seven were held in Vancouver. Attendance figures available show that over 3,000 nurses attended regional institutes and an equal number attended programs in Vancouver.⁸

Attendance at Continuing Education Programs

All but nine of the Directors of Nursing had attended at least one continuing education program for nurses in the five years preceding the study. Of the ones who had not attended any, six were from small hospitals (under seventy-five beds) and three were employed in medium-sized hospitals (75 to 200 beds). Table IV gives the frequency and percentage of attendance at continuing education programs by size of hospital and teaching status.

All of the Directors of the large teaching hospitals had been to more than three programs as had all but one Director from other large hospitals. The proportion of participants attending more than three of the short, continuing education programs steadily decreased as the size of the hospital decreased.

Nurses from the larger hospitals not only attended more educational programs but proportionately also went further afield to go to these. Of the sixteen participants (19 per cent of the total population) who reported attending educational meetings out of the province, five were from large hospitals (46 per cent of the total number of large hospitals), six from medium hospitals (30 per cent), and five from the smaller hospitals (9 per cent).

The number of participants who had attended educational meetings outside the province in the five years prior to the study is shown in Table V.

TABLE IV
CONTINUING EDUCATION PROGRAMS ATTENDED BY
PARTICIPANTS, BY SIZE AND TEACHING
STATUS OF HOSPITALS

Hospital*	Number of Programs Attended					Total
	0	1	2	3	More than 3	
Type A						
Teaching	-	-	-	-	6 100%	6 100%
Non-teaching	-	1 20%	-	-	4 80%	5 100%
Type B	3 15%	3 15%	2 10%	1 5%	11 55%	20 100%
Type C	3 9%	4 13%	5 16%	8 25%	12 38%	32 100% **
Type D	3 14%	4 18%	7 31%	2 9%	6 27%	22 100% **
Totals	9	12	14	11	39	85

* Type A - 201 beds and over
Type B - 75 - 200 beds
Type C - 30 - 74 beds
Type D - under 30 beds

** Percentage figures have been rounded off to the nearest whole number and, therefore, do not total exactly 100%

TABLE V

ATTENDANCE OF PARTICIPANTS AT EDUCATIONAL
MEETINGS OUTSIDE THE PROVINCE IN THE FIVE YEARS
PRIOR TO THE STUDY, BY SIZE AND TEACHING
STATUS OF THE HOSPITAL

* Hospital	Number	Percent of Total
Type A		
Teaching	4	67%
Non-teaching	1	20%
Type B	6	30%
Type C	3	9%
Type D	2	9%
Totals	16	

* Type A - 201 beds and over
 Type B - 75-200 beds
 Type C - 30-74 beds
 Type D - under 30 beds

Participation in Professional Nursing Organizations

The authority to control nursing in Canada is vested in the provinces, as are other matters pertaining to health. The Registered Nurses' Act of British Columbia, which regulates the training, education and practice of nurses in the province, is a permissive registration act, that is, the nurse may or may not register depending on whether she wishes to enjoy the privileges of registration. Only in the teaching hospitals, and those hospitals which accept nursing students for clinical experience, is it mandatory that all graduate nurses be registered.⁹

The Registered Nurses' Association of British Columbia is the official licensing body for nurses in the province. In 1968, there were 12,011 nurses registered in British Columbia. Of these, 10,904 were engaged in nursing on a full or part-time basis.¹⁰

Registration in British Columbia entitles a nurse to membership in her local nursing association, the provincial association and the Canadian Nurses' Association. All of the Directors of Nursing of the hospitals included in the study were registered in the province. As of 1968, there were forty-two local chapters of the Registered Nurses' Association of British Columbia which were incorporated into eight districts of the Association, plus two districts in metropolitan areas in which the local chapter and the district were combined. In addition, at the time of the study, there were four local chapters not incorporated into districts.

The local nursing chapters usually meet on a monthly basis, the districts two to four times yearly. The provincial association holds an annual meeting for all members, while the national nursing association meets once every two years and the International Congress every four years.

In twenty of the hospitals studied (24 per cent), the participants reported that they were in areas not incorporated into districts of the Registered Nurses' Association and sixteen (19 per cent) said there was no local chapter close enough for them to attend meetings.

Attendance at meetings of the nursing association and participation in the organization to the extent of office-holding or committee membership at the three levels, local, provincial and national, varied in direct relationship to the size of the hospitals. That is to say, the participants from the larger hospitals were more active in the professional nursing association than those from smaller hospitals, the degree of participation decreasing steadily as the size of the hospital decreased. There was one exception to the general trend. In the case of the local chapter meetings, fifty-five per cent of the nurses from the medium size hospitals (75 to 200 beds) reported that they always attended. This was a much higher percentage than that for any other group.

The details of attendance and office-holding or committee membership of the participants in the professional nursing association at the local, provincial and national levels by size of hospital and teaching status are shown in Tables VI through XI on the following pages.

Professional Reading Habits

The Directors of Nursing of the hospitals included in the study reported that they spent anywhere from a couple of hours a week in reading professional literature to one hour a day. Only three (4 per cent) said they spent less time than this in reading related to their work, while a few stated they sometimes spent two hours a day.

By far the most widely read professional journal is The Canadian Nurse, official organ of the Canadian Nurses' Association. Other nursing journals received by the participants varied in number from none in twenty-five hospitals (29 per cent), to five or more in three hospitals (4 per cent), with the smaller hospitals (those under seventy-five beds) reporting the fewest subscriptions to nursing journals (other than The Canadian Nurse) and the large teaching hospitals the most. Only eleven participants (13 per cent) received Nursing Research, the principal journal reporting on nursing studies on this continent.

Table XII shows the detailed breakdown of number of

TABLE VI
ATTENDANCE OF PARTICIPANTS AT MEETINGS OF
THE LOCAL PROFESSIONAL NURSING ASSOCIATION,
BY SIZE AND TEACHING STATUS OF THE HOSPITAL

* Hospital	Attended Meetings					No Local Chapter	Totals
	Always	Mostly	Sometimes	Rarely	Never		
Type A							
Teaching	2 33%	2 33%	2 33%	-	-	-	6 100% **
Non-teaching	2 40%	1 20%	2 40%	-	-	-	5 100%
Type B	11 55%	5 25%	4 20%	-	-	-	20 100%
Type C	4 13%	10 32%	6 19%	2 7%	5 16%	5 16%	32 100% **
Type D	4 18%	1 5%	-	4 18%	2 9%	11 50%	22 100%
Totals	23	20	14	6	7	16	85

* Type A - 201 beds and over
Type B - 75-200 beds
Type C - 30-74 beds
Type D - under 30 beds

** Percentage figures have been rounded off to the nearest whole number and, therefore, do not total exactly 100%

TABLE VII
OFFICE OR COMMITTEE MEMBERSHIP
OF PARTICIPANTS IN THE LOCAL PROFESSIONAL
NURSING ASSOCIATION, BY SIZE AND TEACHING
STATUS OF THE HOSPITAL

* Hospital	Hold Office or Committee Membership			Totals
	Currently	Previously	Never	
Type A				
Teaching	1 17%	5 83%	-	6 100%
Non-teaching	-	3 60%	2 40%	5 100%
Type B	-	12 60%	8 40%	20 100%
Type C	2 6%	10 31%	20 63%	32 100%
Type D	2 9%	3 14%	17 77%	22 100%
Totals	5	33	47	85

* Type A - 201 beds and over

Type B - 75-200 beds

Type C - 30-74 beds

Type D - under 30 beds

TABLE VIII
ATTENDANCE OF PARTICIPANTS AT MEETINGS OF THE
PROVINCIAL PROFESSIONAL NURSING ASSOCIATION,
BY SIZE AND TEACHING STATUS OF THE HOSPITAL

* Hospital	Attend Meetings					No Local Chapter	Total
	Always	Mostly	Sometimes	Rarely	Never		
Type A							
Teaching	2 33%	2 33%	2 33%	-	-		6 100%**
Non-Teaching	2 40%	1 20%	2 40%	-	-		5 100%
Type B	8 40%	5 25%	3 15%	1 5%	3 15%		20 100%
Type C	3 9%	4 13%	9 28%	4 13%	12 38%		32 100%**
Type D	2 9%	-	6 27%	2 9%	12 55%		22 100%
Totals	17	12	22	7	27		85

* Type A - 201 beds and over
Type B - 75-200 beds
Type C - 30-74 beds
Type D - under 30 beds

** Percentage figures have been rounded off to the nearest whole number and, therefore, do not total exactly 100%.

TABLE IX
OFFICE OR COMMITTEE MEMBERSHIP
OF PARTICIPANTS IN THE PROVINCIAL PROFESSIONAL
NURSING ASSOCIATION, BY SIZE AND TEACHING
STATUS OF THE HOSPITAL

Hospital [*]	Hold Office or Committee Membership			Totals
	Currently	Previously	Never	
<hr/>				
Type A				
Teaching	3 50%	2 33%	1 17%	6 100%
Non-teaching	3 60%	-	2 40%	5
Type B	1 5%	6 30%	13 65%	20 100%
Type C	-	2 6%	30 94%	32 100%
Type D	1 5%	-	21 95%	22 100%
<hr/>				
Totals	8	10	67	85

*Type A - 201 beds and over

Type B - 75-200 beds

Type C - 30-74 beds

Type D - under 30 beds

TABLE X
ATTENDANCE OF PARTICIPANTS AT MEETINGS OF THE
NATIONAL PROFESSIONAL NURSING ASSOCIATION,
BY SIZE AND TEACHING STATUS OF THE HOSPITAL

* Hospital	Attend Meetings					No Local Chapter	Total
	Always	Mostly	Sometimes	Rarely	Never		
Type A							
Teaching	1 17%	3 50%	1 17%	-	1 17%		6 100%**
Non-Teaching	-	-	2 40%	-	3 60%		5 100%
Type B	1 5%	-	4 20%	-	15 75%		20 100%
Type C	-	-	1 3%	2 6%	29 91%		32 100%
Type D	-	-	1 5%	2 9%	19 86%		22 100%
Totals	2	3	9	4	67		85

*Type A - 201 beds and over

Type B - 75-200 beds

Type C - 30-74 beds

Type D - under 30 beds

** Percentage figures have been rounded off to the nearest whole number and, therefore, do not total exactly 100%

TABLE XI

OFFICE OR COMMITTEE MEMBERSHIP
OF PARTICIPANTS IN THE NATIONAL PROFESSIONAL
NURSING ASSOCIATION, BY SIZE AND TEACHING
STATUS OF THE HOSPITAL

Hospital *	Hold Office or Committee Membership			Totals
	Currently	Previously	Never	
Type A				
Teaching	1 17%	-	5 83%	6 100%
Non-teaching	-	-	5 100%	5 100%
Type B	-	-	20 100%	20 100%
Type C	-	-	32 100%	32 100%
Type D	-	-	22 100%	22 100%
Totals	1	0	84	85

*Type A - 201 beds and over

Type B - 75-200 beds

Type C - 30-74 beds

Type D - under 30 beds

TABLE XII

NUMBER RECEIVED OF NURSING JOURNALS
IN ADDITION TO THE CANADIAN NURSE
BY PARTICIPANTS, BY SIZE AND TEACHING
STATUS OF THE HOSPITAL

Number of Journals	0	1	2	3	4	5	Totals
Hospital*							
Type A							
Teaching	-	-	-	1	2	3	6
				17%	33%	50%	100% **
Non-teaching	-	1	2	-	2	-	5
		20%	40%		40%		100%
Type B	1	5	5	5	4	-	20
	5%	25%	25%	25%	20%		100%
Type C	12	11	6	3	-	-	32
	37%	36%	18%	9%			100%
Type D	12	6	3	1	-	-	22
	55%	27%	13%	5%			
Totals	25	23	16	10	8	3	85

* Type A - 201 beds and over
 Type B - 75-200 beds
 Type C - 30-74 beds
 Type D - under 30 beds

** Percentage figures have been rounded off to the nearest whole number and, therefore, do not total exactly 100%

subscriptions to nursing journals reported by participants by size of hospital and teaching status.

III. THE NURSING STAFFS OF THE HOSPITALS

Most of the graduate nurses employed in the public general hospitals of the province at the time of the study were graduates of British Columbia or other Canadian schools of nursing. Only one small hospital reported a higher proportion of graduates from countries other than Canada on their staff. Thirty (35 per cent) reported that over one-half of their nurses were from British Columbia schools, two (2 per cent) that more than three-quarters of their staff were. In eighteen of the hospitals (21 per cent) the highest proportion of the nursing staff were graduates of Canadian schools of nursing outside British Columbia, while one participant stated that more than seventy-five per cent of their nurses were from outside the province.

Exact figures on the number of registered nurses on the staff were not gathered because this situation varies from day to day, but in only a very few instances did the Directors of Nursing indicate that there were any non-registered graduates on their staffs, and these individuals were being encouraged to complete their registration as soon as possible.

All of the large hospitals and thirteen of the medium hospitals (65 per cent) reported that their graduate nurses were fairly mixed as to

age. The smallest hospitals indicated, in more instances than any other group, that they had either predominantly younger or older nurses.

IV. POLICIES OF THE HOSPITALS WITH REGARD TO ATTENDANCE OF NURSES AT EDUCATIONAL MEETINGS

In the hospitals surveyed, the policy of granting leave of absence with pay for nurses to attend educational meetings and giving financial assistance for expenditures appeared to be fairly well established. Only three hospitals (4 per cent) reported that leave of absence was not granted, seven (8 per cent) that it was granted sometimes, or partially, while seventy-five (88 per cent) stated that it was routinely given.

All but nine hospitals said that the nurses received money from the hospital to help with expenses for attendance at educational meetings. Two of the nine said the matter had never come up, three said money was never given and four that it was sometimes given.

Almost all of the participants, (91 per cent) stated that they sent nurses to institutes or other educational programs in Vancouver. Among the hospitals outside Vancouver, the majority (76 per cent) indicated that they sent nurses to regional institutes as well.

In addition to sending nurses away to educational meetings, the majority (69 per cent) of the hospitals reported that they had an in-service educational program for the nursing staff. Many of the larger hospitals have one nurse on staff whose principal responsibility is in-service education.

The frequency of educational meetings seemed to vary. One-third of the participants (33 per cent) reported that meetings were held once a week or oftener. Fifteen (18 per cent) said once every two weeks, twenty-four (28 per cent) reported monthly meetings, while sixteen (18 per cent) said that educational meetings were held every once in a while.

V. THE NURSES' VIEWPOINT ON EQUIPMENT AND PROGRESSIVENESS

Most of the participants (60 per cent) felt that their hospitals were very progressive although almost one-half (48 per cent) of the total population said they would like to see more progress and two stated that their hospitals were not progressive at all. Very few offered an opinion as to who was holding up progress. The majority of those who did (eleven, or 12 per cent of the total population) said it was the Provincial Government. The administrator was felt to be responsible in two cases and the Board of Directors in one.

The hospitals appeared to be well-equipped as far as nursing was concerned. The majority of the participants, (68 per cent) felt they had most of the latest nursing equipment, although four indicated that theirs was hopelessly out-dated, and seven said they had little of the latest. Practically all (91 per cent) said all, or most of their nursing staff, were trained to use the latest equipment.

There seemed to be little difficulty in obtaining needed equipment. Almost two-thirds of participants (65 per cent) said they had no problems in this regard, one-quarter (24 per cent) said they had a little difficulty sometimes, while ten (12 per cent) reported that they had difficulty most of the time. Many participants pointed out that the Women's Auxiliary were very helpful in purchasing new equipment for patient care. Only four participants felt that lack of equipment was very much of a problem in putting new nursing practices into effect.

Very few indicated that all new ideas which were brought to their attention were tried. The majority (78 per cent) said that some were and usually added a statement to the effect that it depended on the idea and whether it was applicable to their hospital.

CHAPTER III

FOOTNOTES

1. 19th Annual Report, January 1st to December 31st, 1967, British Columbia Hospital Insurance (Victoria, Department of Health Services and Hospital Insurance, 1968), pp. 38, 39.

2. British Columbia Government News (Victoria, B.C., vol. 14, No. 2, May, 1966), p. 1.

3. 19th Annual Report of the British Columbia Hospital Insurance Service, op. cit., pp. 12, 13.

4. Ibid., p. 13.

5. Ibid., pp. 16-19.

6. Ibid., pp. 30, 31.

7. A Brief History of the (Canadian Hospital) Accreditation Program, unpublished material on the history of Canadian Hospital Accreditation given to the author by the British Columbia Hospital Insurance Association.

8. These figures were compiled from reports of the minutes of the Annual Meetings of the Registered Nurses' Association of British Columbia, 1963-68 and the Report of the Department of Continuing Medical Education, Faculty of Medicine, the University of British Columbia, 1968.

9. The RNABC, What it is, What it does (pamphlet published by the Registered Nurses' Association of British Columbia, 1966), p. 8.

10. "Report of the Executive Secretary," RNABC News (Vancouver, April/May 1969), p. 28.

CHAPTER IV

THE FLOW OF INFORMATION ON NEW NURSING PRACTICES

As discussed in Chapter II, research in other disciplines has shown that there are identifiable channels of communication in various social systems to disseminate information on new knowledge and technology to members of a community.¹ Nurses have their own specific ways of transmitting information about new practices in nursing.

In order to determine the channels used by Directors of Nursing in the hospitals under study, questions were asked during the interview regarding the sources of information found most helpful at each stage of the adoption process. The nurses were also asked to name the specific sources they had used for each of the innovations in nursing practice included in the interview schedule.

A preliminary list of sources which were thought might be used by the nurses had been compiled.* The participants were asked to select from the list the sources they had found most helpful or to name

* The compilation of the list was discussed in Chapter I on page 13, 14

others they had used at various stages in the adoption process.

The data gathered was analyzed on the basis of: (1) use of sources by stages in the adoption process, (2) use of sources by nature of the activity involved in the source, (3) use of specific sources for each of the innovations included in the interview schedule, and (4) the transfer of information about the innovations and communication links between hospitals.

I. SOURCES OF INFORMATION USED, BY STAGES IN THE ADOPTION PROCESS

Table XIII shows the sources of information reported as used at each stage in the adoption process and the frequency with which these were named by the Directors of Nursing. Sources named by twenty or more participants are underscored.

There was a marked similarity in the responses given by participants, sufficient to indicate that there is a definite process involved in the seeking of information about new ideas and practices. This process is common to the majority of Directors of Nursing of the public general hospitals of the province.

The Awareness Stage

Mason, Trol Dahl and others have pointed out that, with farmers, information may come from a wide variety of sources originally.²

TABLE XIII: SOURCES OF INFORMATION USED BY PARTICIPANTS AT ALL STAGES IN THE ADOPTION PROCESS

	Stage	Awareness	Interest	Evaluation	Trial	Adoption	Total
1.	Nursing staff and other nurses	<u>26</u>	14	<u>72</u>	<u>26</u>	<u>83</u>	221
2.	Doctors	<u>33</u>	<u>21</u>	<u>65</u>	18	<u>77</u>	214
3.	Other directors of nursing	<u>40</u>	<u>66</u>	12	<u>42</u>	4	164
4.	Salesmen-hospital equipment supply house	<u>57</u>	<u>34</u>	5	<u>68</u>		164
5.	Administrators	<u>17</u>	8	<u>55</u>	5	<u>68</u>	153
6.	Literature from hospital supply houses	<u>51</u>	<u>50</u>	2	20	2	124
7.	Nursing journals	<u>68</u>	20	1	7	2	98
8.	Institutes	<u>56</u>	5	2	2		65
9.	Hospital journals	<u>48</u>	9		5	1	63
10.	New graduates-Cdn schools of Nursing	<u>45</u>	5	2	1		53
11.	New graduates-BC schools of Nursing	<u>37</u>	6	4	1		48
12.	Drug salesmen	<u>30</u>	6		3	1	40
13.	B. C. H. A. conventions and meetings	<u>23</u>	8	2	1		34
14.	Films	<u>26</u>	3		2		31
15.	Nursing textbooks	19	8		4		31
16.	Medical journals	<u>21</u>	8				29
17.	R. N. A. B. C. provincial meetings	<u>23</u>		1	1		25
18.	New staff from abroad	<u>21</u>	2	1			24
19.	R. N. A. B. C. News Bulletin	<u>21</u>					21

TABLE XIII (Continued)

	Stage	Awareness	Interest	Evaluation	Trial	Adoption	Total
20.	Patients	9		3	1	8	21
21.	Previous Experience	16	1	1		1	19
22.	Hospital Board			5		11	16
23.	R. N. A. B. C. local meetings	13		1	1		15
24.	B. C. H. I. S. Nursing Consultant	10	4			1	15
25.	Television programs	8					8
26.	Newspapers	7					7
27.	Radio	6					6
28.	R. N. A. B. C.		3	1			4
29.	Public Health Nurse		1				1
	Totals	<u>731</u>	<u>282</u>	<u>235</u>	<u>208</u>	<u>258</u>	<u>1714</u>

This appears to be true of the nurses also who reported that they received new ideas from many sources. The most commonly named were, in order of frequency (1) nursing journals, (2) salesmen from the hospital supply houses, (3) institutes and other short, continuing educational programs, (4) literature from hospital supply houses, (5) hospital journals, (6) new staff from Canadian schools of nursing, (other than British Columbia graduates), (7) other Directors of Nursing, (8) new graduates from British Columbia schools of nursing, (9) physicians, (10) drug salesmen, (11) films, (12) other nurses generally, (13) attendance at professional nursing or hospital association meetings, (14) new staff from abroad, (15) the News Bulletin of the Registered Nurses' Association of British Columbia, (16) medical journals.

It is evident that a new idea may come, then, from any one of a number of places. Table XIV shows the frequency and percentage of sources used at the awareness stage of the adoption process.

The Interest Stage

Once a Director of Nursing has heard of a new idea and is interested in pursuing it, she seeks additional information on the subject. The five most commonly named sources at the interest stage were (1) other Directors of Nursing, (2) literature from the hospital supply houses, (3) salesmen from the hospital supply houses, (4) doctors, (5) the nursing journals.

TABLE XIV
SOURCES OF INFORMATION USED AT THE
AWARENESS STAGE

		Frequency	Percent
1.	<u>Nursing Journals</u>	(68)	9
2.	<u>Salesmen - hospital equipment</u>		
	<u>supply houses</u>	(57)	8
3.	<u>Institutes</u>	(56)	8
4.	<u>Literature from hospital supply houses</u>	(51)	7
5.	<u>Hospital Journals</u>	(48)	7
6.	<u>New graduates - Canadian schools of</u>		
	<u>Nursing</u>	(45)	6
7.	<u>Other directors of Nursing</u>	(40)	5
8.	<u>New graduates - B. C. Schools of</u>		
	<u>Nursing</u>	(37)	5
9.	<u>Doctors</u>	(33)	5
10.	<u>Drug salesmen</u>	(30)	4
11.	<u>Films</u>	(26)	4
12.	<u>Nursing staff and other nurses</u>		
	<u>generally</u>	(26)	4
13.	<u>R. N. A. B. C. provincial meetings</u>	(23)	3
14.	<u>B. C. H. A. conventions and meetings</u>	(23)	3
15.	<u>New staff from abroad</u>	(21)	3
16.	<u>R. N. A. B. C. news bulletin</u>	(21)	3
17.	<u>Medical journals</u>	(21)	3
18.	<u>Nursing textbooks</u>	(19)	3
19.	<u>Administrators</u>	(17)	2
20.	<u>Previous experience</u>	(16)	2
21.	<u>R. N. A. B. C. local meetings</u>	(13)	2
22.	<u>B. C. H. I. S. nursing consultant</u>	(10)	1
23.	<u>Patients</u>	(9)	1
24.	<u>Television programs</u>	(8)	1
25.	<u>Newspapers</u>	(7)	1
26.	<u>Radio</u>	(6)	1
		<hr/>	<hr/>
		731	100%*

* Percentage figures have been rounded off to the nearest whole number and therefore do not total exactly 100%.

The most usual procedure is for the Director of Nursing to seek information from others like herself who may have had experience with the innovation, that is, she will write to another Director at a different hospital, or telephone her, to find out more about the new idea. If the innovation is a new piece of equipment, she will write for information from the hospital supply house, or ask the salesman to provide her with more detail. In the small hospitals particularly, where there is a close working relationship between the medical and nursing staffs, the doctors are often consulted at this stage. The journals may be used for specific reference to information on the new idea and several of the participants mentioned that they would sometimes write directly to the author of a journal article for additional information about a new practice.

Other sources are also used at the interest stage, although not named as frequently as the ones above. The nursing staff may be questioned to find out if anyone is familiar with the practice from previous experience in other hospitals. The administrator may be asked for his opinion, or a request for information may be directed to the nursing consultant staff of the British Columbia Hospital Insurance Service or to the Registered Nurses' Association. Medical journals and nursing textbooks may be used for additional information. If there is to be a continuing education program coming up on the subject, a member of the staff may be sent to it. Sometimes the idea is discussed

at a meeting of the Directors of Nursing within their local British Columbia Hospital Association district.

Information-seeking, at the interest stage, appears to be directed and purposeful.

Table XV shows the frequency and percentage of sources used at the interest stage of the adoption process.

The Evaluation Stage

When information on a new practice has been gathered, the idea is evaluated to see if it would be feasible in the special situation of the particular hospital. This appears to be almost entirely an internal assessment with the Director of Nursing consulting with her nursing staff, the physicians and the administrator. Some of the participants mentioned consulting with other Directors of Nursing at this stage, and a few said they contacted the salesman from the hospital supply house, but, by and large, it is the staff of the hospital who decide whether the idea should be tried in practice.

TableXVI shows the frequency and percentage of sources used at the evaluation stage in the adoption process.

The Trial Stage

When a decision has been made to try out something new, more detailed information on the technical aspects of implementation is sought.

TABLE XV
SOURCES OF INFORMATION USED AT THE
INTEREST STAGE

		Frequency	Per cent
1.	<u>Other Directors of Nursing</u>	(66)	23
2.	<u>Information from hospital supply</u> <u>houses</u>	(50)	18
3.	<u>Salesmen - hospital equipment</u> <u>supply houses</u>	(34)	12
4.	<u>Doctors</u>	(21)	7
5.	<u>Nursing journals</u>	(20)	7
6.	Nursing staff and other nurses generally	(14)	5
7.	Hospital journals	(9)	3
8.	Administrators	(8)	3
9.	Nursing textbooks	(8)	3
10.	Medical journals	(8)	3
11.	B. C. H. A. conventions and meetings	(8)	3
12.	Drug salesmen	(6)	2
13.	New staff - B. C. Schools	(6)	2
14.	Institutes	(5)	2
15.	New staff - other hospitals in Canada	(5)	2
16.	B. C. H. I. S. nursing consultant	(4)	1
17.	Films	(3)	1
18.	R. N. A. B. C.	(3)	1
19.	New staff from abroad	(2)	1
20.	Previous experience	(1)	-
21.	Public Health Nurse	(1)	-
		<hr/> 282	<hr/> 100% *

*Percentage figures have been rounded off to the nearest whole number and therefore do not total exactly 100%

TABLE XVI
SOURCES OF INFORMATION USED AT THE
EVALUATION STAGE

		Frequency	Per cent
1.	<u>Nursing staff</u> - other nurses generally	(72)	31
2.	<u>Doctors</u>	(65)	28
3.	<u>Administrators</u>	(55)	24
4.	Other Directors of Nursing	(12)	5
5.	Salesmen from hospital supply houses	(5)	2
6.	Hospital Board	(5)	2
7.	New staff members - B. C. grads	(4)	2
8.	Patients	(3)	1
9.	Information from hospital supply houses	(2)	1
10.	Institutes	(2)	1
11.	B. C. H. A. conventions and meetings	(2)	1
12.	New staff from hospitals in Canada	(2)	1
13.	Nursing journals	(1)	-
14.	Local R. N. A. B. C. meetings	(1)	-
15.	Provincial R. N. A. B. C. meetings	(1)	-
16.	New staff from abroad	(1)	-
17.	Previous experience	(1)	-
18.	R. N. A. B. C. office	(1)	-
		<hr/> 235	<hr/> 100% *

* Percentage figures have been rounded off to the nearest whole number and therefore do not total exactly 100%

If it is a piece of equipment, the salesman from the hospital supply house will usually give a demonstration for staff members who will be using it. If the idea is a change in nursing techniques or routines, other Directors of Nursing will be consulted. A staff member may be sent to another hospital to see the practice in operation, or, correspondence may take the place of a visit. Resources within the hospital may also be used, such as nurses or doctors who are familiar with the practice. Literature from the hospital supply companies may suffice instead of an actual demonstration by the salesman. Some of the participants mentioned using the nursing and hospital journals for explicit information at the trial stage.

Table XVII shows the frequency and percentage of sources used at the trial stage of the adoption process.

The Adoption Stage

When a final decision is being made either for full and continued use of an innovation, or its rejection, the same sources are used as at the evaluation stage. In actuality, this is also evaluation. The nursing staff, particularly those who have tried it, the medical staff and the administrator are consulted. This time, it is the final assessment after trial use of a new practice. The administrator is especially important in cases where adoption of the innovation involves the outlay of funds, since his approval must be gained before expenditures can be

TABLE XVII
SOURCES OF INFORMATION USED AT THE
TRIAL STAGE

		Frequency	Per cent
1.	<u>Salesmen from hospital equipment</u>		
	<u>supply houses</u>	(68)	33
2.	<u>Other Directors of Nursing</u>	(42)	20
3.	<u>Nursing staff and other nurses</u>		
	generally	(26)	13
4.	<u>Information from hospital supply</u>		
	<u>houses</u>	(20)	10
5.	Doctors	(18)	9
6.	Nursing journals	(7)	3
7.	Hospital journals	(5)	2
8.	Administrators	(5)	2
9.	Nursing textbooks	(4)	2
10.	Drug salesmen	(3)	1
11.	Institutes	(2)	1
12.	Films	(2)	1
13.	Local R. N. A. B. C. meetings	(1)	-
14.	Provincial R. N. A. B. C. meetings	(1)	-
15.	B. C. H. A. conventions and meetings	(1)	-
16.	New staff - B. C. schools	(1)	-
17.	New staff - other Canadian hospitals	(1)	-
18.	Patients	(1)	-
		<hr/> 208	<hr/> 100% *

*Percentage figures have been rounded off to the nearest whole number and therefore do not total exactly 100%.

authorized. Several participants mentioned that the Hospital Board must also be consulted if the innovation means a change in hospital policy or affects community relations.

It was reported by some Directors of Nursing that the opinion of patients may be sought before a final decision is made on matters concerning the patients' welfare and a few stated that they consulted with other Directors of Nursing at the final decision-making stage.

TableXVIII shows the frequency and percentage of sources used at the adoption stage of the adoption process.

II. SOURCES OF INFORMATION USED, BY NATURE OF ACTIVITY

The sources of information were divided into four categories according to nature of the activity:(1) impersonal sources, that is, mass media; (2) attendance at institutes, workshops and other short, continuing education programs;(3) attendance at professional meetings; and(4) personal sources, that is, interpersonal communication.

Table XIX shows the frequency and percentage of sources used at the five stages of the adoption process by nature of the activity. Sources named by twenty participants or more are under-scored.

It is evident that all four categories of sources are used

TABLE XVIII
SOURCES OF INFORMATION USED AT THE
ADOPTION STAGE

		Frequency	Per cent
1.	<u>Nursing staff</u>	(83)	32
2.	<u>Doctors</u>	(77)	30
3.	<u>Administrators</u>	(68)	26
4.	Board	(11)	4
5.	Patients	(8)	3
6.	Other Directors of Nursi ng	(4)	2
7.	Nursing journals	(2)	1
8.	Information from hospital supply houses	(1)	-
9.	Hospital journals	(1)	-
10.	Drug Salesmen	(1)	-
11.	B. C. H. I. S. nursing consultant	(1)	-
12.	Previous experience	(1)	-
		<hr/> 258	<hr/> 100% *

*Percentage figures have been rounded off to the nearest whole number and therefore do not total exactly 100%.

TABLE XIX SOURCES OF INFORMATION USED BY PARTICIPANTS AT STAGES IN THE ADOPTION PROCESS, ACCORDING TO NATURE OF THE ACTIVITY

	Awareness		Interest		Evaluation		Trial		Adoption	
	Frequency	% Category	Frequency	% Category	Frequency	% Category	Frequency	% Category	Frequency	% Category
1. Impersonal Sources										
Nursing Journals	<u>68</u>	25	<u>20</u>	20	1	33	17	18	2	50
Information from hospital supply house	<u>51</u>	19	<u>50</u>	51	2	67	<u>20</u>	52	1	25
Hospital Journals	<u>48</u>	17	9	9	-	-	5	13	1	25
Films	<u>26</u>	9	3	3	-	-	2	5	-	-
R. N. A. B. C. news Bulletin	<u>21</u>	8	-	-	-	-	-	-	-	-
Medical Journals	<u>21</u>	8	8	8	-	-	-	-	-	-
Nursing Textbooks	<u>19</u>	7	8	8	-	-	4	10	-	-
Television Programs	8	1	-	-	-	-	-	-	-	-
Newspapers	7	3	-	-	-	-	-	-	-	-
Radio	6	2	-	-	-	-	-	-	-	-
SUB TOTAL	275	100%*	98	100%*	3	100%*	38	100%*	4	100%

TABLE XIV (Continued)

	Awareness		Interest		Evaluation		Trial		Adoption	
	Frequency	% Category	Frequency	% Category	Frequency	% Category	Frequency	% Category	Frequency	% Category
2. Attendance at Short Continuing Education Programs	<u>56</u>	100%	5	100%	2	100%	2	100%	-	-
3. Attendance at Professional Meetings										
R. N. A. B. C. provincial meetings	<u>23</u>	39	-	-	1	25	1	33	-	-
B. C. H. A. Conventions and meetings	<u>23</u>	39	8	100%	2	50	1	33	-	-
R. N. A. B. C. local meetings	13	22	-	-	1	25	1	33	-	-
SUB TOTAL	59	100%	8	100%	4	100%	3	100%*	-	-

TABLE XIV-(Continued)

	Awareness		Interest		Evaluation		Trial		Adoption	
	Frequency	% Category	Frequency	% Category	Frequency	% Category	Frequency	% Category	Frequency	% Category
4. Personal Sources										
Salesmen from hospital supply houses	<u>57</u>	17	<u>34</u>	20	5	2	<u>68</u>	41	-	-
New Graduates - Cdn schools of Nursing	<u>45</u>	13	5	3	2	1	1	1	-	-
Other Directors of Nursing	<u>40</u>	12	<u>66</u>	39	12	5	<u>42</u>	25	4	2
New Graduates - BC schools of Nursing	<u>37</u>	11	6	4	4	2	1	1	-	-
Doctors	<u>33</u>	10	21	13	65	29	18	11	77	30
Drug Salesmen	30	9	6	4	-	-	3	2	1	-
Nursing staff and other nurses generally	26	8	14	8	72	32	26	16	83	33
New Staff from abroad	21	6	2	1	1	-	-	-	-	-
Administrators	17	5	8	5	55	24	5	3	68	27
Previous Experience	16	5	1	1	1	-	-	-	1	-
B. C. H. I. S. Nursing Cons	10	3	4	2	-	-	-	-	1	-
Patients	9	1	-	-	3	1	1	1	8	3
Public Health Nurse	-	-	1	1	-	-	-	-	-	-
Hospital Board	-	-	-	-	5	3	-	-	11	4
SUB TOTAL	341	100%	168	100%*	225	100%*	165	100%*	254	100%*
GRAND TOTAL	731	-	279	-	234	-	208	-	258	-

* Percentage figures have been rounded off to the nearest whole number and therefore do not total exactly 100%.

frequently in the early stages of the adoption process while, in the latter stages of evaluation, trial, and final decision-making, the Directors of Nursing depend almost entirely on personal sources. The relative importance of impersonal sources thus declines as the potential adopter moves through the innovation-decision process. This is consistent with the findings of rural sociologists and researchers in the fields of medicine and education.³

Use of Impersonal Sources

Impersonal sources of information are used most by the Directors of Nursing at the awareness and interest stages of the adoption process.

Professional Journals

The chief impersonal source is the professional journal, with the nursing journals outranking the hospital journals, in order of frequency named, by 42 per cent. Of the nursing journals, by far the most widely read is The Canadian Nurse, official organ of the Canadian Nurses' Association. A portion of the licensing fee for nurses in British Columbia pays for a subscription to this journal, so that every Registered Nurse in the province receives it regularly. The majority of participants (89 per cent) reported that they read all or most of the articles in it. Over one-quarter (26 per cent) receive no other nursing journal, while another 26 per cent subscribe to only one other, either personally or at work. Nursing Research, the principal journal reporting research findings in nursing on this continent, is received by

only eleven hospitals in the group under study, the six large teaching hospitals, one other large hospital and four medium size hospitals (75-200 beds).

Several hospital administration journals are usually available to the nursing staff, some coming directly to the nursing office, while others are shared with the administrator. The Directors of Nursing report that the hospital journals contain much that is pertinent to nursing and of particular interest to nursing administrators.

The journals were found to be most useful in drawing attention to new ideas, although there was some indication of their use at the interest stage and occasionally during later stages also.

Literature from the Hospital Supply Houses

The next most frequently named impersonal source of information was the literature sent out by commercial firms dealing in hospital equipment. This was used about equally at the awareness and interest stages, with some reference to this source again at the trial stage. This literature is chiefly advertising material put out by companies wishing to sell their products.

Films

Films came eleventh on the list in rank order of use of all sources at the awareness stage, being named by twenty-six (31 per cent)

of the respondents as being useful in bringing new ideas to their attention. Many nurses expressed a desire for more films on new practices in nursing and a wish that it were easier to obtain them. The suggestion was made that there be a film library in the province so that available films would be more readily accessible.

Other Impersonal Sources

Other impersonal sources named by the participants were medical journals and nursing textbooks. Many Directors of Nursing indicated that they had started small nursing libraries and would like to increase their holdings so that reference material would be available to the nursing staff when needed.

Mass media communications, other than those mentioned above, were not a common source of information for the nurses. Television, radio and newspapers apparently provide little that is of professional interest to the Directors of Nursing although a few mentioned that they occasionally came across a new idea in a newspaper item, or on a television or radio program.

Institutes and other Short, Continuing Education Programs

There has been much activity in the area of continuing education programs for nurses in the province during recent years. In the five years immediately preceding the study, a total of thirty-seven short courses for nurses had been offered in the Vancouver area and another

forty regional institutes held in various centers throughout the province.⁴ All but nine (11 per cent) of the participants had attended at least one of these programs and fifty-eight, the majority, (68 per cent) had attended three or more.

In addition, seventy-seven of the Directors of Nursing (91 per cent) reported that they sent members of their nursing staff to educational programs in Vancouver while sixty-one of the nurses from hospitals outside the Vancouver area (76 per cent) said they sent nurses to regional institutes as well.

The policy of granting leave of absence with pay for attendance at educational meetings appears to be fairly firmly established in the hospitals under study. All but three of the participants stated that leave of absence with pay was granted in their hospitals. Six mentioned, however, that this was a 'sometimes' matter and one said that part of the time only was granted as leave with pay. There are usually restrictions on the number of nurses who may attend in 'on-duty' time and others who wish to go, do so on their own time.

It is also a policy in seventy-six (89 per cent) of the hospitals for nurses attending educational programs to have some or all of their expenses paid by the hospital. A certain amount of the annual budget of the hospital is allocated for educational purposes but most of the

participants stated that there was never enough money to send all the nurses they would like to educational programs and the budget, which must cover all hospital staff, is usually depleted long before the end of the year.

The short, continuing education program, none the less, appears to be an important source of information on new knowledge and technology in nursing. The nurse who attends is usually expected to report at a staff meeting on what she learned and new ideas are discussed and evaluated with others. The participants cited the continuing education programs as one of the principal sources of information at the awareness stage. A few mentioned that they were also helpful at the interest stage. If they had heard of something new and there was to be an institute on the subject, they would go themselves or send a staff member to find out more about the idea. Two participants mentioned the use of continuing education programs at the evaluation and trial stages also.

Attendance at Professional Meetings

Attendance at professional meetings, specifically the annual meetings of the Provincial Nursing Association and meetings of the British Columbia Hospital Association, ranked fourteenth and fifteenth on the list of sources used at the awareness stage of the adoption process. It has been the practice of the Nursing Association to set

aside a portion of their three-day annual meeting for the presentation and discussion of new ideas in nursing. Although twenty-seven (32 per cent) of the participants stated that they had never attended an annual meeting of their provincial nursing association and another six (7 per cent) said they rarely go,⁵ it appears that those who do attend feel they gain many new ideas from this source.

Figures were not gathered on the number of Directors of Nursing who attended meetings of the British Columbia Hospital Association but it appears that the Hospital Association conventions and meetings are also considered good sources of information about new ideas in nursing. In each Area Council (district) of the Hospital Association, the Directors of Nursing have begun to meet on a regular basis to discuss mutual problems and plan for regional educational programs.

Many participants stressed the value of the informal exchange with colleagues that takes place at professional meetings. Several said, "you can learn more over a cup of coffee with another director, especially if she comes from the same size hospital as you do and has similar problems". The 'getting to know' one another also helps to facilitate communication after the meetings. Many said they found it much easier to call another director or write to her for information after chatting informally at meetings.

Use of Personal Sources

Personal sources are used by the Directors of Nursing at all stages of the adoption process, their relative importance increasing in the later stages when decisions are being made relative to the trial and continued use of an innovation, or when there is a need for direct and detailed instructions on implementation of a new practice.

The chief personal sources of information named by the participants in this study were (1) other Directors of Nursing, (2) nursing staff within the hospital, (3) physicians, (4) administrators, and (5) salesmen.

Other Directors of Nursing

The importance of communications with other Directors of Nursing is evident from the high ranking of this source at the awareness (seventh) interest (first), and trial stages (second), of the adoption process and is in accord with one of the most common principles of communication, namely, that people interact mostly with others like themselves. In this respect, the Directors of Nursing are the same as the members of any other social community where 'like talks to like',* the concept of homophily discussed by Rogers and Shoemaker. This was shown to be true in the early communications studies on voting behavior of people by Lazarfeld and others, in the Northern

* See Chapter II, p. 32 for a more complete discussion of this topic.

Saskatchewan studies by Leuthold on farmers, and in the drug studies by Coleman and Menzel on the diffusion of innovations among physicians.⁶

The Nursing Staff within the Hospital

The nursing staff within a hospital also provide much information on new ideas and practices in nursing. Nurses show considerable job mobility and their experience in other hospitals is a useful source of information. Many participants said they made a habit of questioning every graduate who came on staff to find out what new things are being tried in other places. Particularly helpful in this regard are the recent graduates from British Columbia and other Canadian schools of nursing since the teaching hospitals are 'supposed to be up on all the latest', according to statements made by many of the Directors of Nursing. The staff were mentioned again at the interest stage, although they do not figure as prominently in this regard as other sources.

When decisions are being made relative to the trial or continued use of an innovation, the nursing staff is almost invariably consulted. Seventy-two (85 per cent) of the Directors of Nursing reported that the staff were brought into discussions prior to trial use of a new practice and eighty-three (98 per cent) said the nursing staff were involved in the final decision regarding adoption. The staff may also be a source of information regarding the details of imple-

menting an innovation, as indicated by use of this source during the trial stage.

The Medical Staff

Physicians were named as a source of new ideas by thirty-three (39 per cent) of the participants and twenty-one (25 per cent) said that when they heard of something new they would ask the medical staff if they had any information on the subject. Again the physicians were consulted during the trial stage but their greatest importance appeared to be as referents during the evaluation and final decision-making stages. Sixty-five (76 per cent) of the participants said the medical staff were consulted before an innovation was tried and seventy-seven (91 per cent) reported that they included the medical staff in decisions regarding its continued use.

The use of physicians as a source of information is much as one would expect since many changes in nursing practice have come about as a result of changing medical practice. The adoption of innovations in one field usually has direct or indirect implications for the other.

The Administrator

The hospital administrator, although mentioned by some participants as a source of information in the early stages of the adoption process, is also most important at the evaluation and adoption

stages. His advice is sought by the majority of Directors of Nursing (65 per cent) before innovations are introduced for trial and in eighty per cent of the hospitals (68) it was reported that the administrator was brought in on the final decision regarding adoption of innovations.

The use of the administrator as a referent, again is understandable, since approval by the administrator is necessary before changes in nursing practice which affect other departments in the hospital, or require an outlay of funds, can be implemented.

Salesmen

The role of the commercial agent, in this case, the salesman from the hospital supply house, appears to be an important one in the dissemination of information about new ideas, particularly with regard to equipment. Not only does the salesman appear second on the list of sources at the awareness stage but he ranks third at the interest and first at the trial stages. The 'detail man' from the hospital supply house appears to perform much the same function in this instance as the drug salesman among physicians, or the retail seller of farm equipment with the farmers.⁷

Other personal sources

Other personal sources of information named by the participants were drug salesmen, nursing consultants from the British Columbia Hospital Insurance Service, patients, and public health nurses.

In many of the smaller hospitals in the province, there is no qualified pharmacist and the Director of Nursing is in charge of drug supplies. She must, therefore, be up-to-date on the latest pharmaceutical products and the drug salesman is very helpful in providing her with information on this topic.

The British Columbia Hospital Insurance Service offers a consultative service for hospitals in addition to making periodic inspection tours. Many participants commented on the help they had received from the nursing consultants but few take advantage of the consultative service available. Visits are initiated, for the most part, by the Department although they may also be made at the hospital's request.⁸

Patients appeared on the list of sources of information used at the awareness and adoption stages principally. Sometimes patients are the original source of a new idea in nursing and a few participants said they consulted the patients before adopting a change in nursing practice that would affect the patients' welfare. Some of the Directors of Nursing mentioned that they were inviting suggestions from patients regarding their care while in hospital and had received many helpful ideas from this source.

The district public health nurse was mentioned in one instance as being helpful in providing additional information at the interest stage in the adoption process.

III. SOURCES OF INFORMATION USED FOR SPECIFIC INNOVATIONS

Table XX shows the list of sources reported as being used by the participants for each of the nine innovations included in the interview schedule, and the frequency with which these were named. These will be discussed under three headings: (1) sources used for changes in nursing techniques, (2) sources used for changes in nursing routines, and (3) sources used for innovations involving commercial products.

Sources used for Changes in Nursing Techniques

Information about the nursing techniques used in this study appeared to be transmitted mainly through informal channels of communication, from nurses to other nurses. New staff were reported as being the chief source of information about the 'Australian lift', mitt restraints and the 'closed glove' technique. Information about the Australian lift is being transmitted by nurses and physiotherapists from Australia and England, although in one hospital it was mentioned that the staff had seen this technique in a film on lifting patients and had subsequently adopted it. The glove technique has been demonstrated in institutes for operating room nurses. These institutes had also been an important channel of communication about

TABLE XX SPECIFIC SOURCES OF INFORMATION USED BY PARTICIPANTS FOR EACH INNOVATIONS

Innovation	Personal sources						Impersonal Sources						
	Nursing Staff	Other Directors of Nursing	Salesmen	Patients	Nursing Consultants	Administrator	Previous Experience	Institutes	Professional Meetings	Journals	Commercial Literature	Films	Books
Australian Lift	18						6	9		4		1	
Boxing Glove Mitt Restraints	24	2		1			19	1		5	2		
'Closed Glove' Technique	49	1	1				5	29	1	6	7	1	1
Sheepskin Pelts	43	6	43	11	1	6	13	3		43	47		
Open Visiting	65	38		14	19	44	10	1	2	47			1
Elimination 6 a. m. Temperature	56	14		6	6	9	8	2	1	32			
Elimination Drawsheets	65		1	15		3	3			6	1		
Colored dresses with children	40	12					5	2	2	69			
Disposable syringes	44	16	71		2	22	4	9	3	98	72		

this innovation. Several participants reported that literature on the technique is available from some of the hospital supply houses.

Sources used for Changes in Nursing Routines

The changes in nursing routines which were investigated during the course of this study appear to have received much more publicity in the nursing literature than the techniques which were selected, and also to have been more widely discussed among nursing administrators. The nursing staff were again listed as a principal source of information about all four innovations but a large number of the Directors of Nursing stated that they had read articles in the nursing journals about open visiting hours, elimination of the early morning temperature routine, and the use of colored dresses by nurses working in pediatric units. These topics had also been discussed with other Directors of Nursing. The elimination of drawsheets seems to have come about mainly through nurses themselves questioning the need for continuing this routine within their own hospitals rather than through information received from outside sources.

Sources used for Innovations Involving Commercial Products

In the case of the two innovations involving commercial products, the use of sheepskin pelts for skin care and the disposable syringes, the chief sources of information have been the salesman and literature from the hospital supply houses. Advertisements in the

nursing and hospital journals were also reported as sources where the participants either first heard of the innovation or found out more about it. Several Directors of Nursing said their first knowledge about the use of sheepskin pelts came from patients or their relatives who had learned of their use elsewhere. The administrator was also frequently named as a source of information about the disposable syringes.

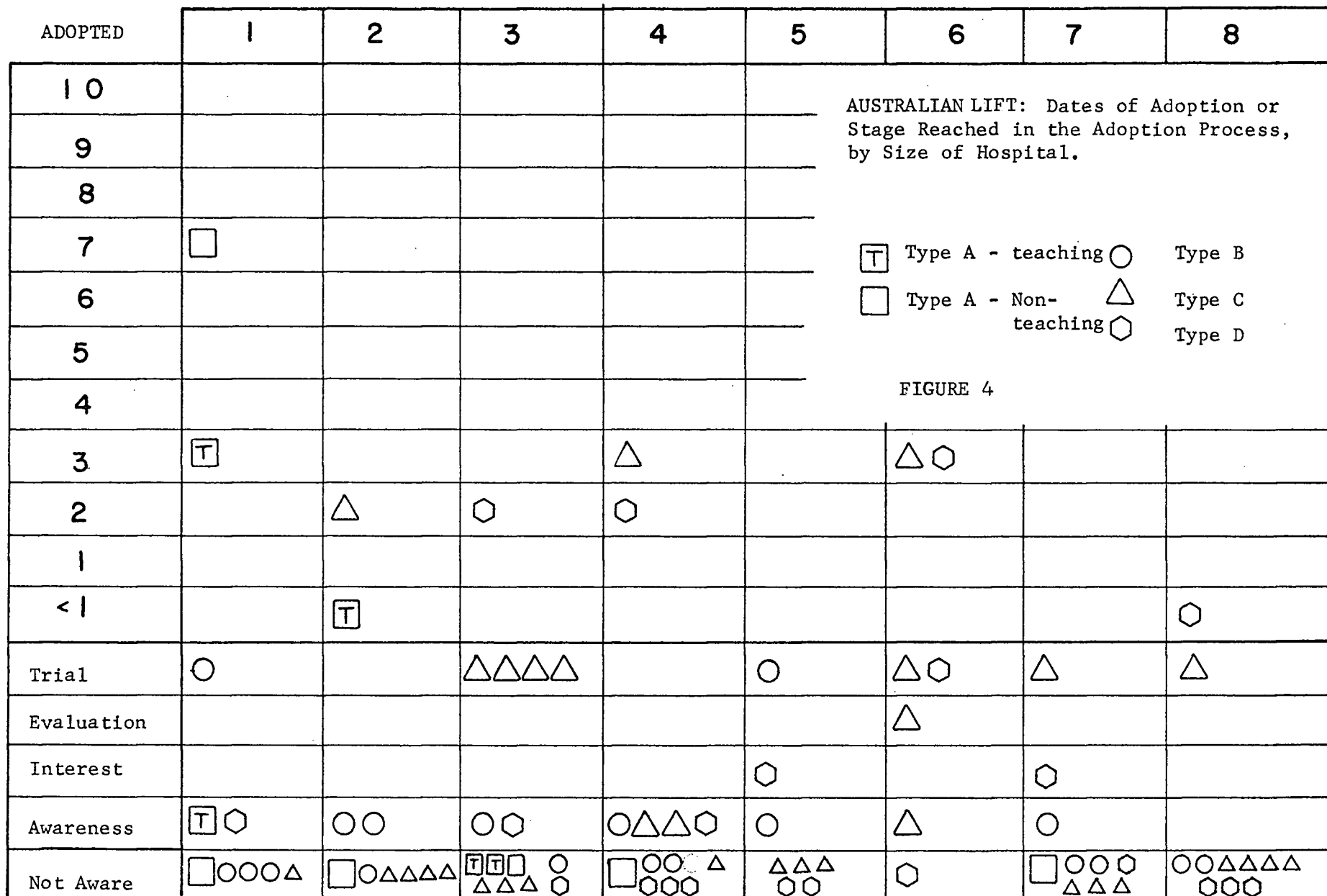
IV. THE FLOW OF INFORMATION THROUGH THE NETWORK OF HOSPITALS

In attempting to trace the flow of information through the network of public general hospitals in the province, two techniques were employed: (1) charts were made showing the pattern of adoption for each of the innovations investigated, and (2) diagrams were drawn depicting the extent of communication between hospitals.

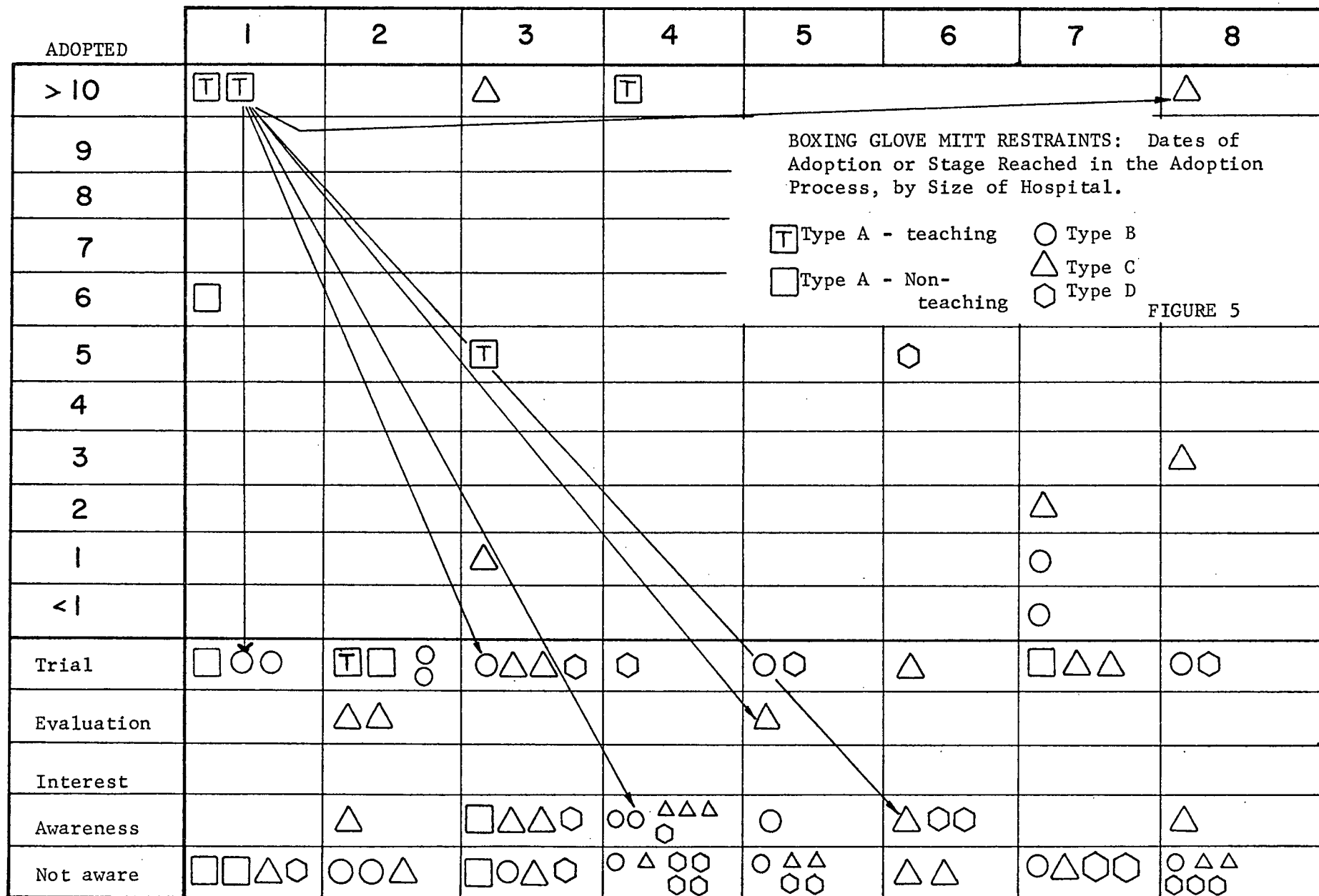
Pattern of Adoption

Figures 4 through 12 show the pattern of adoption of each of the nine innovations investigated in the course of this study. These figures show the stage in the adoption process reached by each hospital and/or the date of adoption of each innovation, by size of hospital and geographic location in the province. The British Columbia Hospital Association districts were used as the divisions of geographic location, numbered approximately in order of distance from Vancouver.

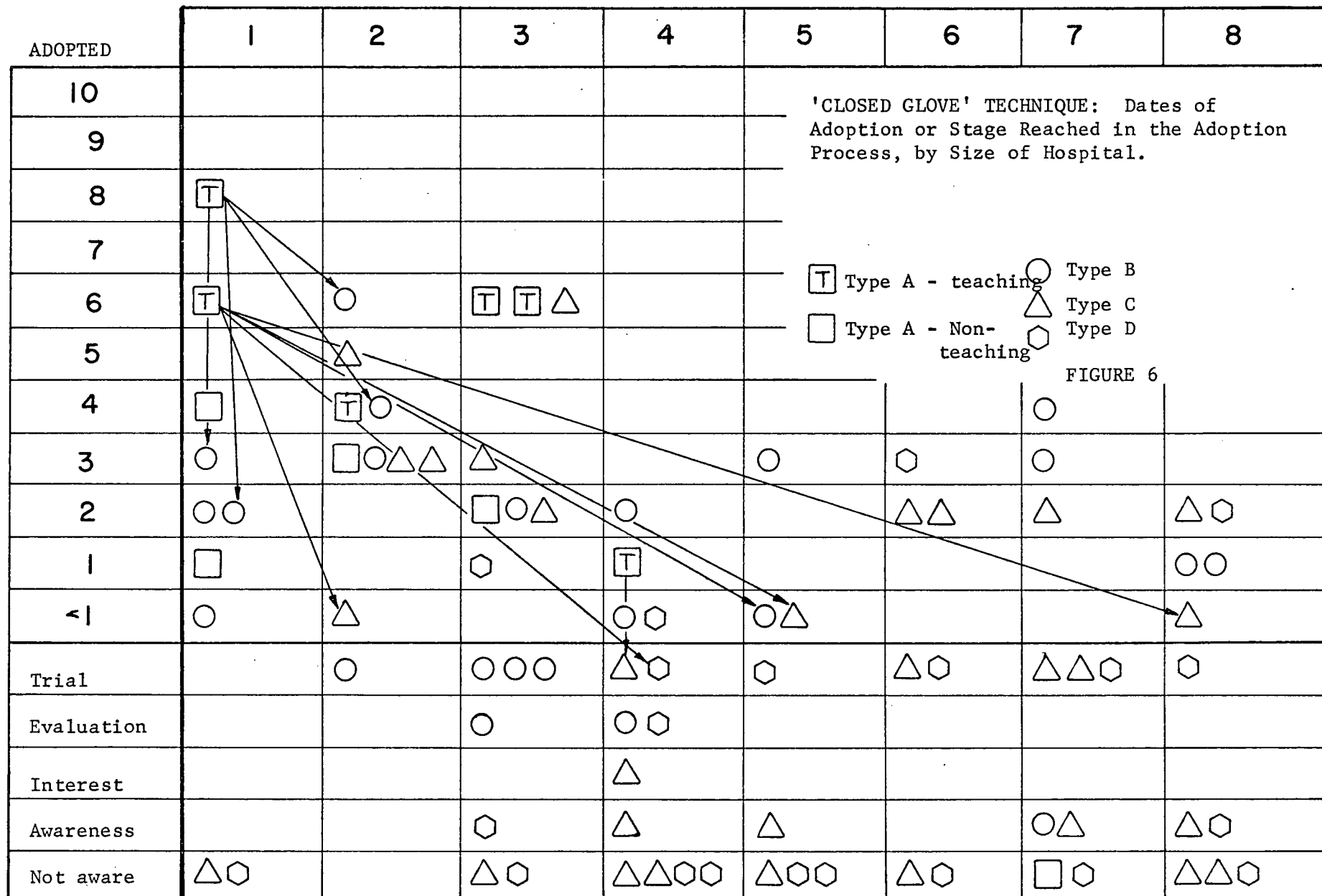
BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT 1 to 8



BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT 1 to 8



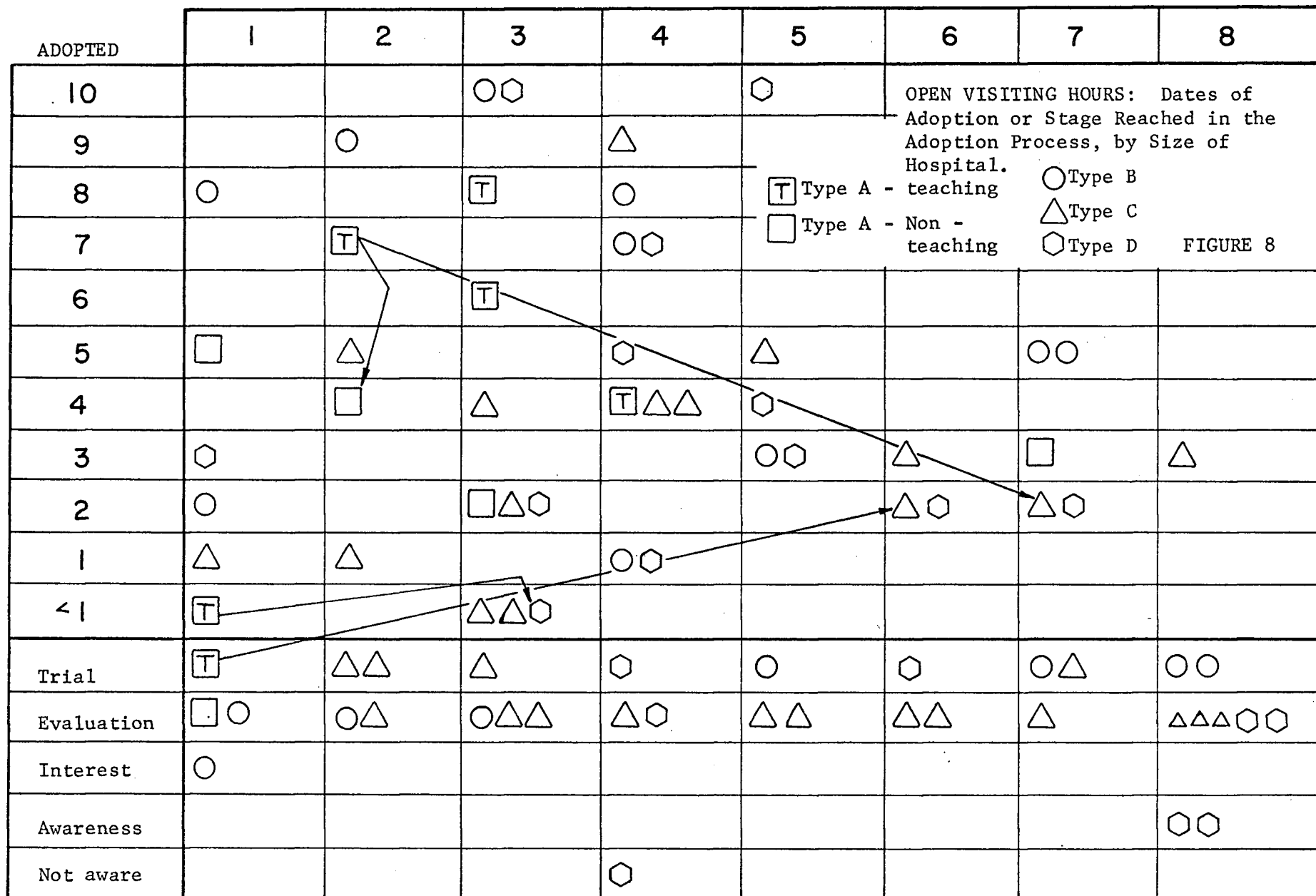
BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT 1 to 8



BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT 1 to 8

ADOPTED	1	2	3	4	5	6	7	8
10	○			⬡	<p>SHEEPSKIN PELTS: Dates of Adoption or Stage Reached in the Adoption Process, by Size of Hospital.</p> <p> T Type A - teaching ○ Type B □ Type A - Non - teaching △ Type C ⬡ Type D </p> <p>FIGURE 7</p>			
9				⬡				
8								
7	○							
6						△		△
5	□□T	T	T□△	○		⬡	⬡	○△
4		□	○△	○△⬡	○△⬡		○△	
3	□	○	T△△	T		△△		△
2	○	△△		△△⬡	△⬡	△⬡	□△⬡	△
1	△	△	△		⬡			○△
<1		○○	△	△⬡			○△	⬡
Trial	○○⬡	△△	○	○○⬡	△	⬡		⬡
Evaluation			⬡				○△	⬡
Interest								
Awareness			⬡		○			
Not aware								⬡

BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT 1 to 8



BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT 1 to 8

ADOPTED	1	2	3	4	5	6	7	8
10			T			<p>ELIMINATION OF 6 A.M. TEMPERATURE ROUTINE: Dates of Adoption or Stage Reached in the Adoption Process, by Size of Hospital.</p> <p> T Type A - teaching □ Type A - Non teaching ○ Type B △ Type C ◇ Type D </p>		
9								
8			T					
7								
6	□			△				
5								○
4		○△	△	T		△	□△◇	△
3	△		□	○△	○	△		
2	□○	△	△					
1			△	○	○△		△	
<1	○	△△	△	△◇			○	
Trial	T	T□○	○○△	○		△	△	○
Evaluation	T○○	○△	◇	△△◇	△		○○◇	△△
Interest			△◇			◇		△◇
Awareness	◇			◇	◇	◇	△	◇◇
Not aware			◇	◇◇	△◇	△	○	△◇

FIGURE 9

BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT 1 to 8

ADOPTED	1	2	3	4	5	6	7	8
10	T			<p>ELIMINATION OF DRAWSHEETS: Dates of Adoption or Stage Reached in the Adoption Process, by Size of Hospital.</p> <p> T Type A - teaching ○ Type B □ Type A - Non - teaching △ Type C ◻ Type D </p>				
9								
8								
7		T						
6		○△		FIGURE 10				
5							◻◻	
4								
3			T					◻
2				T			△	
1			○			△		◻
<1					○	△		◻
Trial	T□○○○	○△△	T□○○○○ △△△△△	○ ○ ○ △△△△△	○ △ △ △ ○ ○ ○	△ ○ ○ ○	□ ○ △ △ △	○ △ △ △ △
Evaluation		○		○ ○			○	
Interest	□							
Awareness		△	△					○
Not aware	○△	□△					○	△ ◻

BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT 1 to 8

ADOPTED	1	2	3	4	5	6	7	8
10	○			COLORED DRESSES IN PEDIATRICS: Dates of Adoption or Stage Reached in the Adoption Process, by Size of Hospital. □ Type A - teaching ○ Type B □ Type A - Non - teaching △ Type C ⬡ Type D				
9								
8								
7								
6				⬡				⬡
5			△					△
4				△			△	
3						⬡⬡	△	△
2		△	△				△	⬡
1			⬡					
< 1	□							
Trial	⬡	○	□△	□	○	⬡	□	△⬡
Evaluation	□□□○○	□□○○ △△	□□○○ ⬡△	○	○△	△	△	△⬡
Interest			△△	○			○	○
Awareness	○	△△	△	○△△△ ⬡⬡⬡	△⬡	△	○○⬡	○△
Not aware	△		⬡	⬡⬡	△⬡	△△	○	

FIGURE 11

BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT 1 to 8

ADOPTED	1	2	3	4	5	6	7	8
10				<div>DISPOSABLE SYRINGES: Dates of Adoption or Stage Reached in the Adoption Process, by Size of Hospital.</div> <div><div><div>T</div>Type A - teaching</div><div><div>□</div>Type A - Non - teaching</div></div> <div><div>○</div>Type B</div> <div><div>△</div>Type C</div> <div><div>◻</div>Type D</div>				
9								
8								
7								
6			T	△				
5				◻				△
4	○	T ○		○				○ ◻
3			△	○	◻	◻ ◻	□	○ △
2	T □ □ ◻ ○○○	△	△	T ◻ ◻	○ ◻			
1			△				△	
<1		○	□ △ △				△ ◻	
Trial	□ △	□ ○ △ △ △ △	T ○ ◻ ◻ △ △	○ △ △ △ ◻ ◻ ◻	○ ◻ △ △ △	△ △ △ ◻	○ ○ △	△ △ △ ◻ ◻ ◻
Evaluation			○ ◻			△	○ △ △	◻
Interest								
Awareness								
Not aware								

FIGURE 12

Where information about an innovation was reported to have been transmitted directly from one hospital to another, this is indicated by an arrow.

The charts, with the exception of the 'closed glove' technique, show little direct transmission of information about the specific innovations under study. They do, however, indicate that, in instances where there is systematic diffusion of information about a new nursing practice, the rate of adoption appears to be more rapid than when diffusion occurs through natural channels.

The 'closed glove' technique used in the operating room is a case in point. This technique was first used in British Columbia eight years ago in one of the large teaching hospitals after a staff member had seen it demonstrated at an institute for operating room nurses in another province. The technique, considered to be safer than the practice previously used, was adopted and taught to students. Two years later it was initiated at another large teaching hospital, this time having been brought by an operating room nurse from Eastern Canada. It was also adopted the same year by two other teaching hospitals, one medium size hospital and one small one. As nurses from the teaching hospitals moved to other areas in the province, they introduced the technique to more hospitals. Instructors also began to demonstrate the technique at a series of institutes for operating room nurses in the

province and the rate of adoption rapidly gained momentum. By June, 1968, eight years after its initial use, one-half of the hospitals had adopted the technique and another thirteen were in the trial process. The practice is now starting to be discontinued by some of those who initiated its use because newer and better techniques have been introduced. Significantly, eighteen of the participants were still unaware of the innovation at the time this study was undertaken despite the dissemination of information on it through organized channels. All but one of these were from small hospitals.

Even more rapid are the instances where spread of information about an innovation has been systematically carried out by commercial firms. The adoption of sheepskin pelts for using under bed-ridden patients illustrates this. Their adoption was very slow and sporadic initially. They were introduced mainly by patients or staff members who had seen them used elsewhere. It was generally felt that the pelts did help to prevent decubitus ulcers. It was, however, a problem to keep them clean and laundering had to be done by hand. Once the commercial firms had developed a synthetic product that was machine-washable and advertised this widely through literature and their salesmen, the pace of adoption accelerated rapidly. Within the next five and one-half years, there were sixty-two adoptions among the public general hospitals. The Directors of Nursing reported that the salesmen from the hospital supply houses and the literature sent out by the company

were their chief sources of information. Only one participant from a very small isolated hospital reported that she had never heard of this product.

The adoption of disposable syringes shows much the same pattern. These have had extensive advertising in the professional journals and through literature sent to hospitals by the supply houses and by the salesmen. Several participants mentioned that the supply companies would come in and do a cost analysis survey to help hospitals decide whether the use of disposable syringes would in fact save money. The disposable syringes were first used six years prior to the date this research was undertaken, in one large teaching hospital and one small hospital in the province. Their adoption by other hospitals shows a gradual increase until by 1968, forty of the total eighty-five hospitals had adopted them fully and another thirty-eight were in the trial process with the majority of these planning to go into full-scale use shortly. There were no participants who had not heard of disposable syringes.

The remainder of the innovations, the 'Australian lift', the boxing glove mitt restraints, open visiting, elimination of the 6 a.m. temperature routine, and elimination of drawsheets show a much slower rate of adoption. Some of them, it is true, are fairly recent in their introduction to the province and are, therefore, in the early slow diffusion period, but several have been in use in hospitals in

British Columbia for many years. The number of participants who are unaware of some of the newer practices would appear to indicate that lack of communication is an important factor in the slowness of diffusion of innovations. Most of the participants interviewed expressed considerable interest in learning more about practices they had not heard of prior to the study and were anxious to hear of other new ideas being tried in various hospitals.

Communication between Hospitals

The diagrams showing the extent of communications between hospitals were based on answers given by the participants to questions on which hospitals they wrote to (or otherwise conferred with) regarding new ideas and practices in nursing. This was done if they had indicated other Directors of Nursing as a source of information at any stage in the adoption process.

These diagrams are shown in Figures 13 through 20 on the following pages.

Each figure depicts communication links between hospitals within a district and to outside centers. The British Columbia Hospital Association Districts were again used, numbered approximately in order of distance from the large metropolitan area of Vancouver.

The graphic representation illustrates several points:

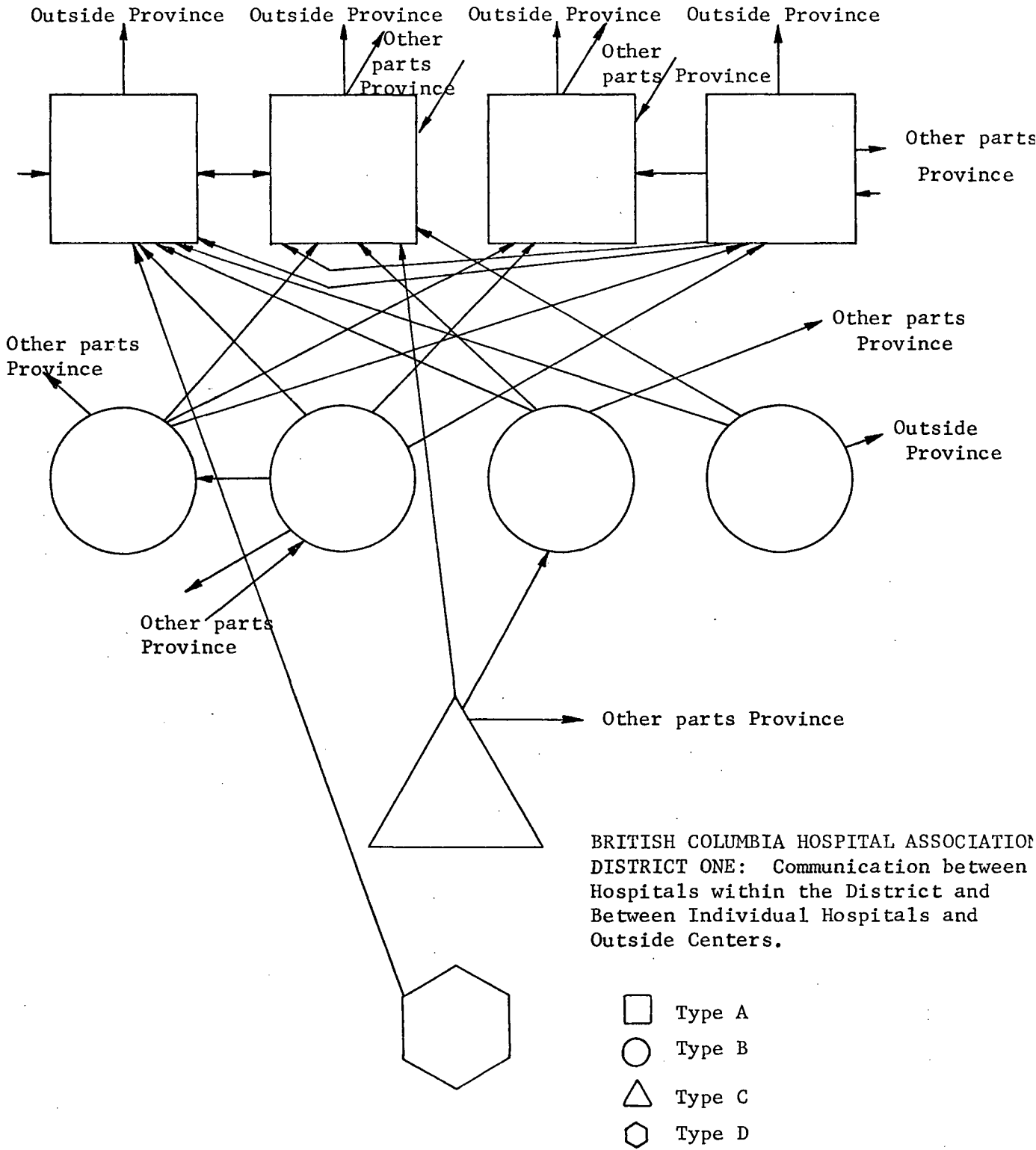
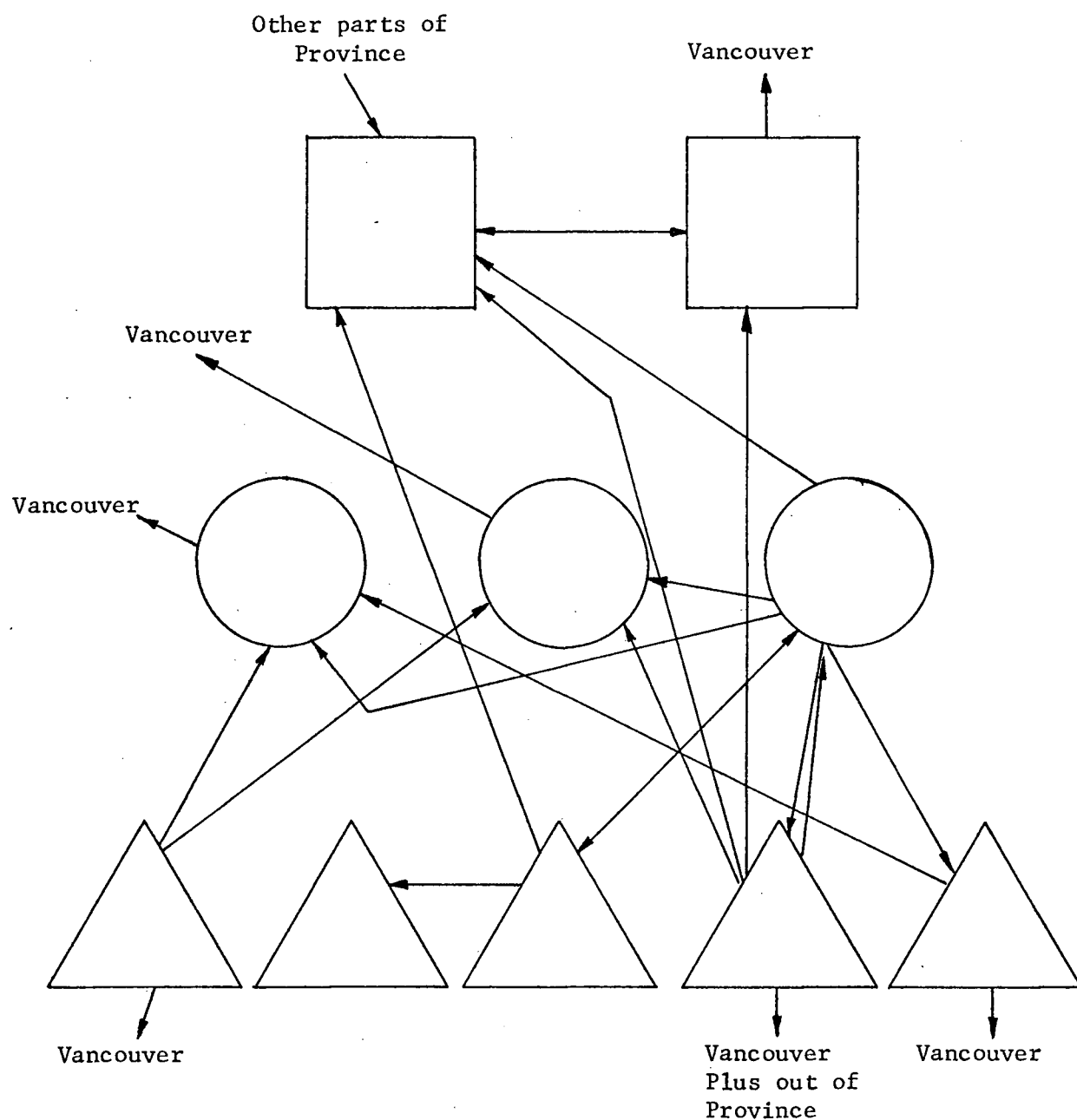


FIGURE 13



BRITISH COLUMBIA HOSPITAL ASSOCIATION
DISTRICT TWO: Communication between
Hospitals within the District and
between Individual Hospitals and
Outside Centers.

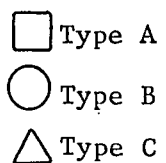


FIGURE 14

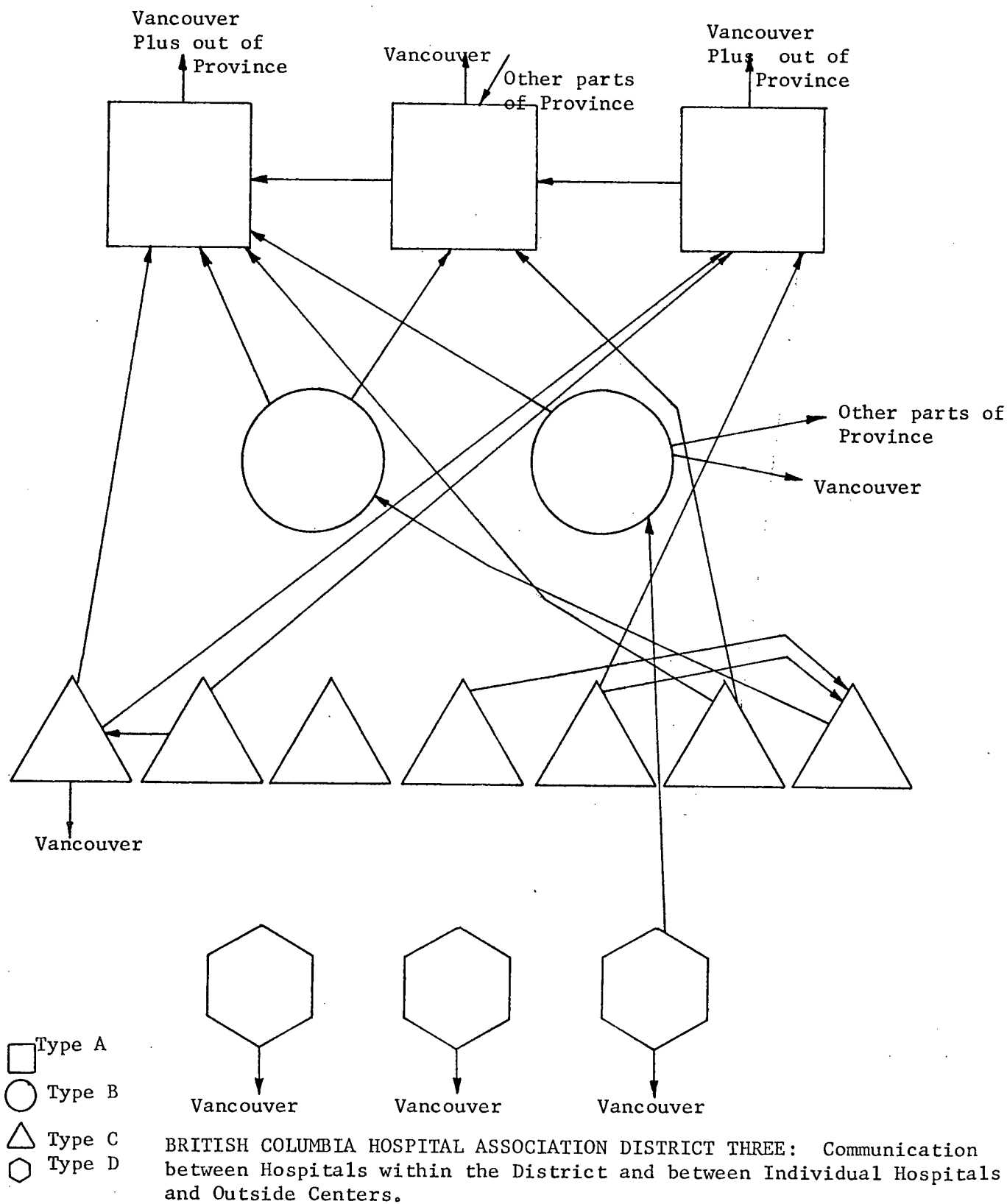


FIGURE 15

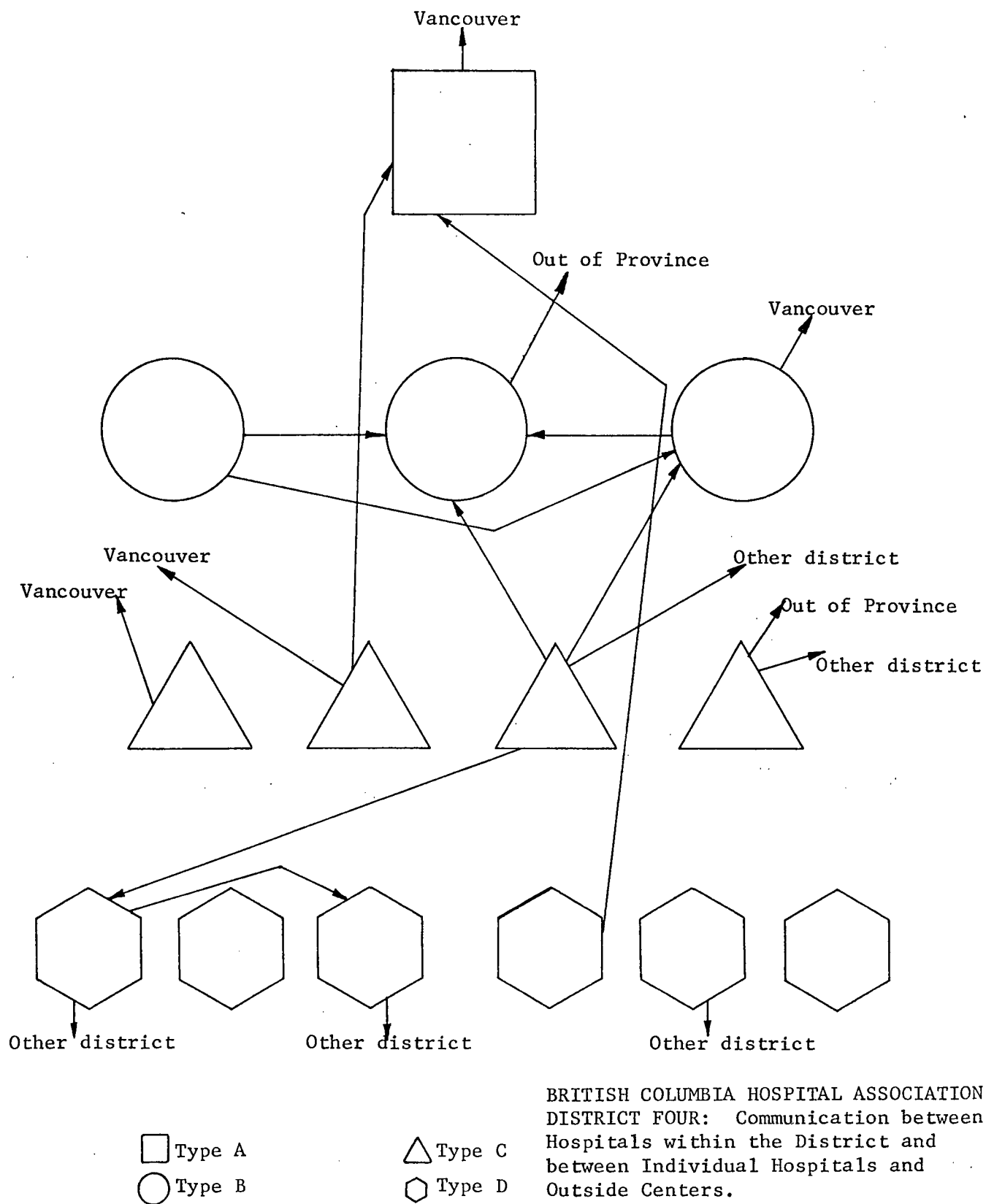
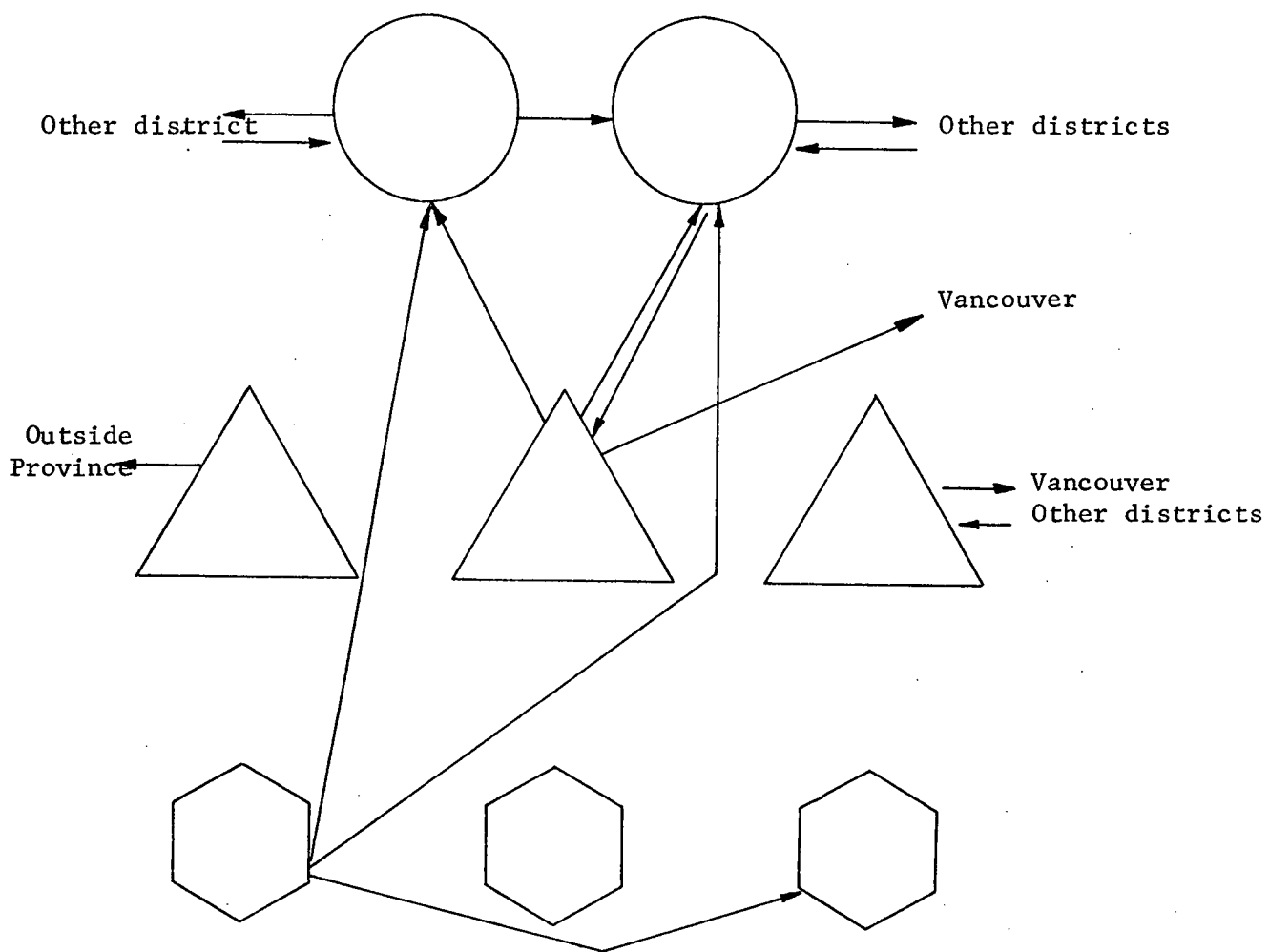


FIGURE 16



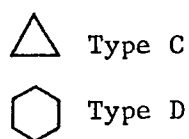
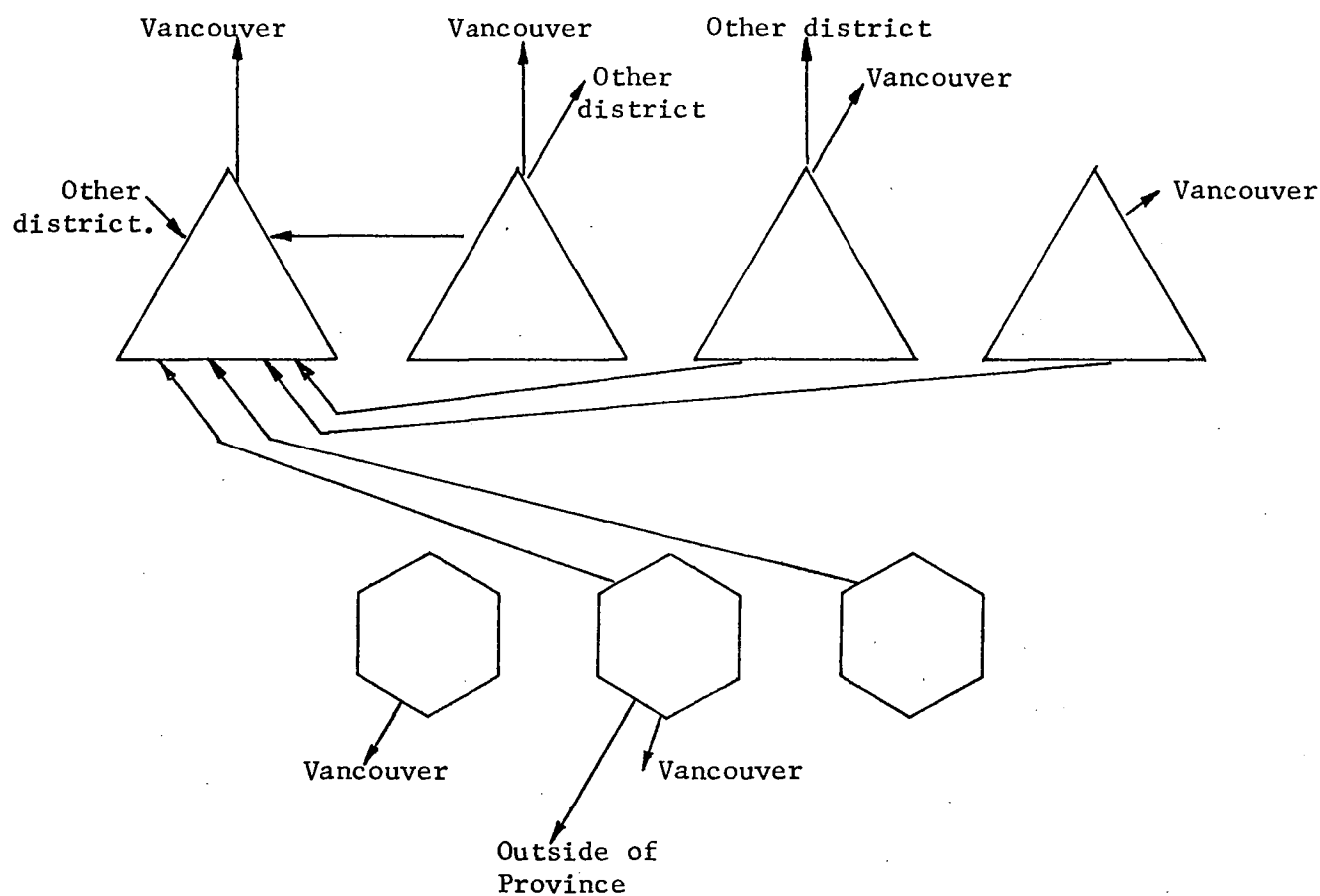
○ Type B

△ Type C

⬡ Type D

BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT FIVE: Communication between Hospitals within the District and between Individual Hospitals and Outside Centers.

FIGURE 17



BRITISH COLUMBIA HOSPITAL ASSOCIATION
 DISTRICT SIX: Communication between
 Hospitals within the District and
 between Individual Hospitals and
 Outside Centers.

FIGURE 18

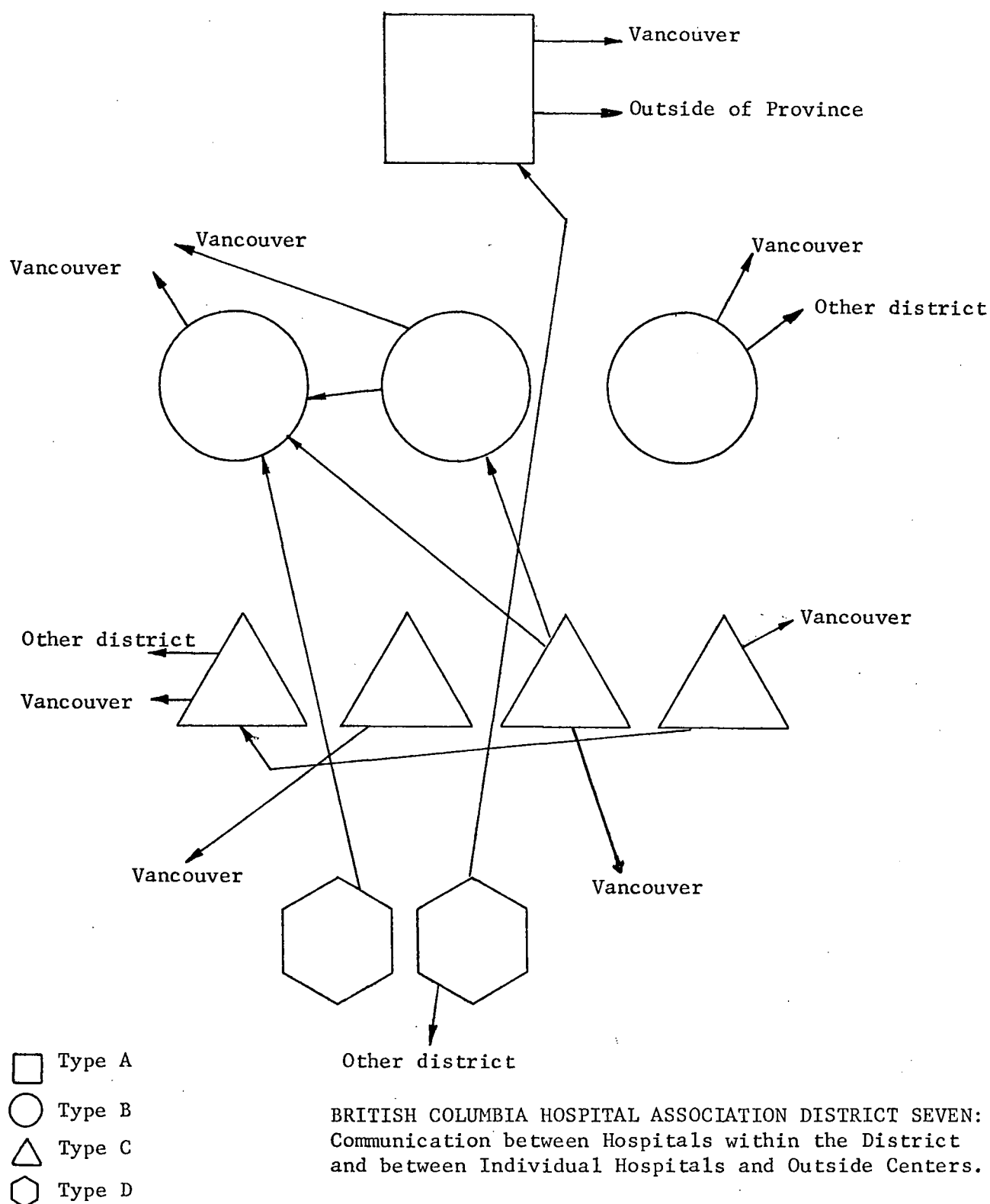
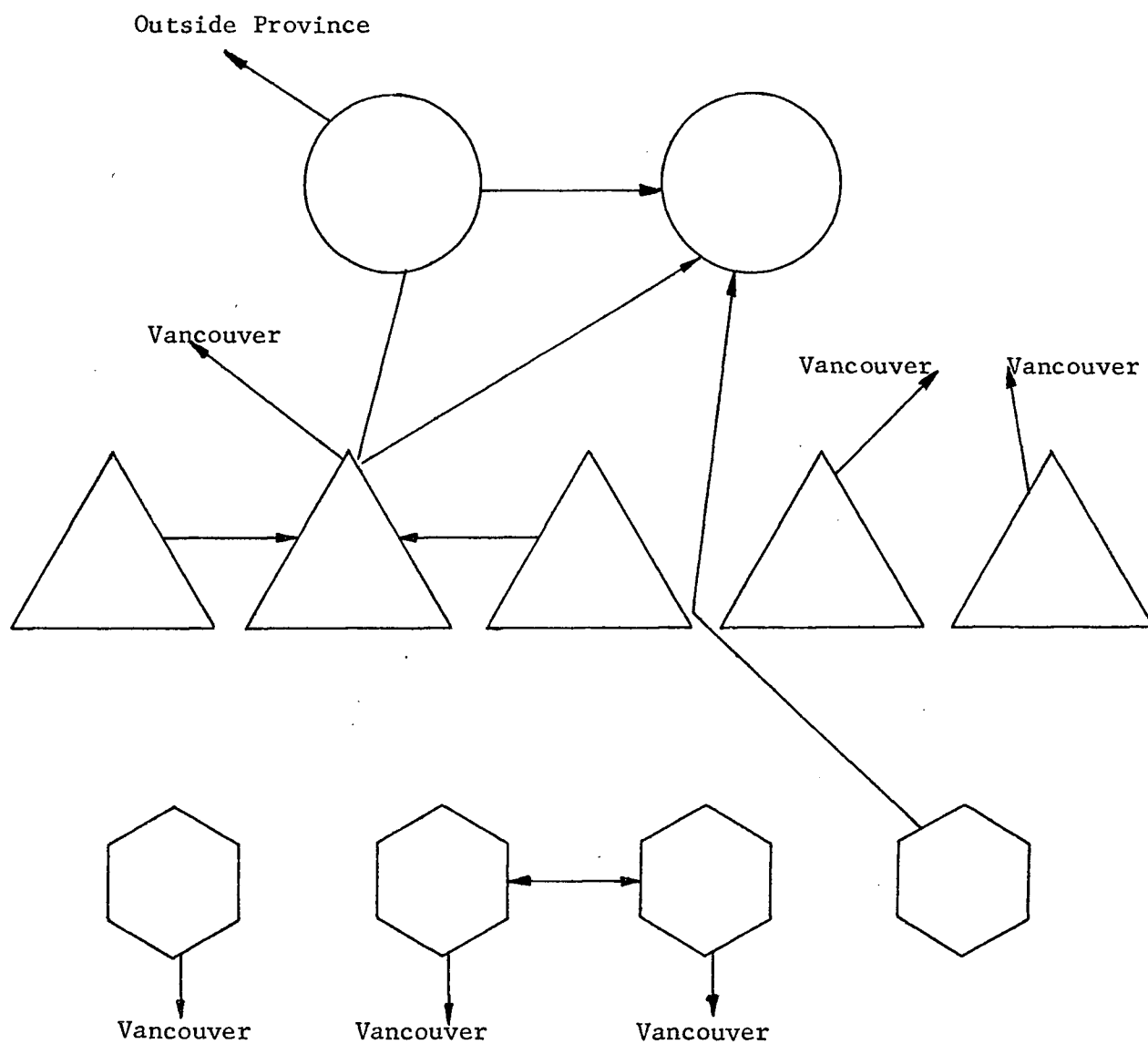


FIGURE 19



- Type B
- △ Type C
- ⬡ Type D

BRITISH COLUMBIA HOSPITAL ASSOCIATION DISTRICT EIGHT: Communication between Hospitals within the District and between Individual Hospitals and Outside Centers.

FIGURE 20

1. By far, the most commonly used referents are the large teaching hospitals in the Lower Mainland, although teaching hospitals in other parts of the province also receive many queries as well as visitors from smaller, non-teaching institutions in their local area. Thirty-five of the participants stated that they wrote to one or more of the teaching hospitals in the Lower Mainland for information concerning innovations in nursing practice. Many mentioned that they would often send a nurse to one of the teaching hospitals if they wanted to learn about such matters as setting up an intensive care unit or an intravenous service. This is not to say that these institutions have a monopoly on new ideas. As can be seen from the figures showing patterns by adoption, (Chapt. V. pp. 132-140) the initial use of a new practice may be in other areas of the province and in smaller hospitals, but it is the teaching institutions which are expected to have the latest information.

2. The amount of communication between hospitals within a district decreases as the distance from Vancouver increases. This can be explained in large part, by the longer distances between hospitals and transportation problems in the more sparsely settled areas of the province. It is much easier for Directors of Nursing of hospitals in Vancouver and the Lower Mainland to get together for meetings or to discuss matters by telephone than it is in northern parts of the province, for example, where travelling is difficult in the winter months, or on the coast, where some hospitals are accessible only by small plane or lengthy

ferry journey. Some participants in isolated communities said they had no contact with other Directors of Nursing. If they wished information they would write to the teaching hospitals.

3. There is some indication that certain hospitals represent the opinion leadership within a district, as evidenced by the number of other hospitals seeking information from them. These appear to be mainly the larger hospitals in regional centers, although this is not always the case. In many of the districts, however, it is the one or two larger hospitals which take the lead in organizing educational programs for nurses in the area. The larger centers usually have better established in-service educational programs and, increasingly, an in-service co-ordinator and they will often invite nurses from nearby hospitals to participate in programs put on for their own staff.

4. There is some indication also, that there are two cycles of influence operating amongst the hospitals. The first is the influence exerted by the large, teaching hospitals who receive information from sources outside the province and participate actively in the educational programs for nurses sponsored by the Registered Nurses' Association and the Departments of Continuing Medical and Nursing Education of the University of British Columbia.

The second cycle of influence involves use of the larger hospitals in regional centers throughout the province as referents by the

smaller hospitals in a district. Many participants from the small hospitals remarked that "the (educational) programs in Vancouver all seem geared to the big hospital". Although some of the continuing education programs offered in Vancouver have been specifically planned for nurses from small hospitals, many of the Directors of Nursing seem to feel that what is said in Vancouver is not applicable to their situations in the rural parts of the province. They therefore turn to the larger hospitals in their own area or to hospitals of comparable size in other parts of the province. In addition, the very small hospitals have problems in getting nurses away to educational programs in Vancouver. It is difficult to release staff for the time required for travelling and the program, and the expense involved soon depletes the budgetary allowance for education. They can more easily send staff to local programs sponsored either by the professional nursing association or by the regional center hospital itself, which many participants felt to be much more beneficial to them.

Sources of Information and Adopter Category

Because of the marked similarity of sources of information reported as used by all participants in this study, there is little distinction that can be made between sources used by early versus late adopters. The one point of differentiation is the more cosmopolitan nature of referent hospitals used by the innovator-earlier adopter group who seek information from places outside the province, in other parts of

Canada and the United States.

Thirteen of the earlier adopters used sources outside British Columbia for information on new ideas and practices, as compared with only four of the later adopters.

CHAPTER IV

FOOTNOTES

1. Supra, Chapter II, pp. 46-48
2. Supra, Chapter II, pp. 43-46
3. Supra, Chapter II, pp. 46-48
4. From minutes of the Annual Meetings of the Registered Nurses' Association of British Columbia, 1962-68.
5. For detailed tables on attendance at professional meetings See Chapter III, p 83 and Chapter V, pp. 85-91.
6. Supra, Chapter II, pp. 32-33
7. Supra, Chapter II, pp. 43-44
8. From discussions with the Nursing Consultant Staff of the British Columbia Hospital Insurance Service, and personal correspondence from E. Nordlund, dated March 7, 1969

CHAPTER V

FACTORS RELATED TO ADOPTION

Previous research has indicated that characteristics of a population are related to the acceptance or rejection of new ideas and technology.¹ The factors studied in the present research included characteristics of: (1) the hospital, (2) the Directors of Nursing, (3) the administrator and (4) the nursing staff. These factors were examined by determining the Group Mean Adoption Scores of hospitals possessing specific characteristics and the proportionate distribution of these hospitals in the four adopter categories.* In some instances, the categories were compressed into two, earlier and later adopters, to point up differences in the characteristics of those who initiate changes earlier, as opposed to those who are slower to accept innovations.

*

See Chapter I, pp. 21-23 for a detailed description of the method of procedure used in computing the adoption score, and division of the hospitals into adopter categories.

The individual adoption scores for the total population of hospitals ranged from a low of 15 to a high of 41. The Mean Score for all hospitals was 29, with a Standard Deviation of 6.

The range, frequency and percentage distribution of scores of the participating hospitals, by adopter category, are shown in Table XXI. Figure 21 shows the frequency distribution of scores of the hospitals in graph form.

I. CHARACTERISTICS OF THE HOSPITAL

As discussed in Chapter II, studies in education have indicated a relationship between factors such as size of school district and income level of the community, and the adoption of educational changes in a school system.² In the absence of previous research in the field of nursing, some of the distinctive characteristics of hospitals which might influence their adaptability to changes in nursing practice were investigated. These factors were (1) size of hospital (2) status of a teaching institution (3) geographic location, and (4) the meeting of certain standards as evidenced by accreditation.

Size

Using rated bed capacity as the criterion of size, the hospitals were divided into four groups, as outlined in Chapter I. Type A, 201 beds and over; Type B, 75 to 200 beds; Type C, 30 to 74 beds, and Type D, under 30 beds.³

TABLE XXI

RANGE, FREQUENCY AND PERCENTAGE DISTRIBUTION
OF SCORES OF PARTICIPATING HOSPITALS
BY ADOPTER CATEGORY

Adopter Category	Range of Scores*	Number of Hospitals	Per Cent of Total Population
Innovators and Early Adopters	37 to 41	13	16
Early Majority	30 to 36	30	34
Late Majority	24 to 29	29	34
Delayed Adopters	15 to 23	13	16
TOTAL	15 to 41	85	100%

* Maximum Score Possible	45
Minimum Score Possible	0
Mean Score	29
Standard Deviation	6

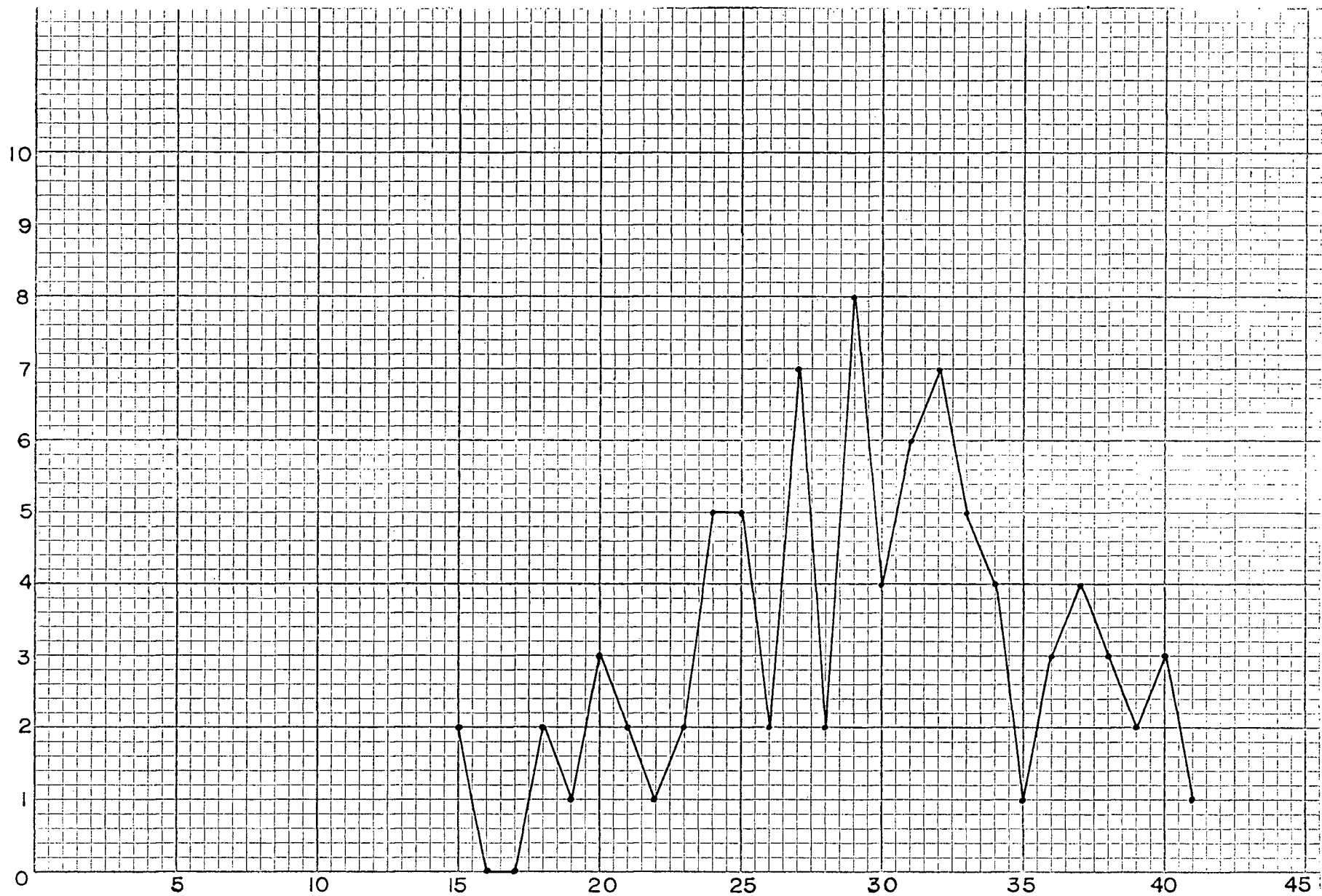


FIGURE 21: DISTRIBUTION OF ADOPTION SCORES

Figure 22 shows the percentage distribution of innovators and early adopters, early majority, late majority and delayed adopters among the Type A, B, C, and D hospitals and the Group Mean Adoption Score of each type.

All of the Type A hospitals were in either the innovator-early adopter or early majority categories and thus among the earlier adopters, while Types B, C, and D had hospitals in all four categories. The proportion of hospitals of each type in the innovator-early adopter category decreased steadily as the hospitals became smaller while the percentage of delayed adopters increased, with the smallest hospitals having the largest number of participants in this category. The Mean Scores of the groups show the same trend with Type A having the highest Group Mean Score, and Type D the lowest.

Contrary to the general trend of decreasing adaptability with decreasing size, the Type C hospitals (30 to 74 beds) had a higher proportion in the two combined earlier adopter categories than the larger Type B hospitals, and the Mean Score of both groups was the same. This seems a little surprising at first since the hospital of 74 to 200 beds is frequently the largest hospital in a district and the most influential, according to the number of smaller hospitals seeking information from it. The finding is, however, consistent with that of Menzel and Katz in the medical field who investigated the adoption of new drugs by physicians and reported that:

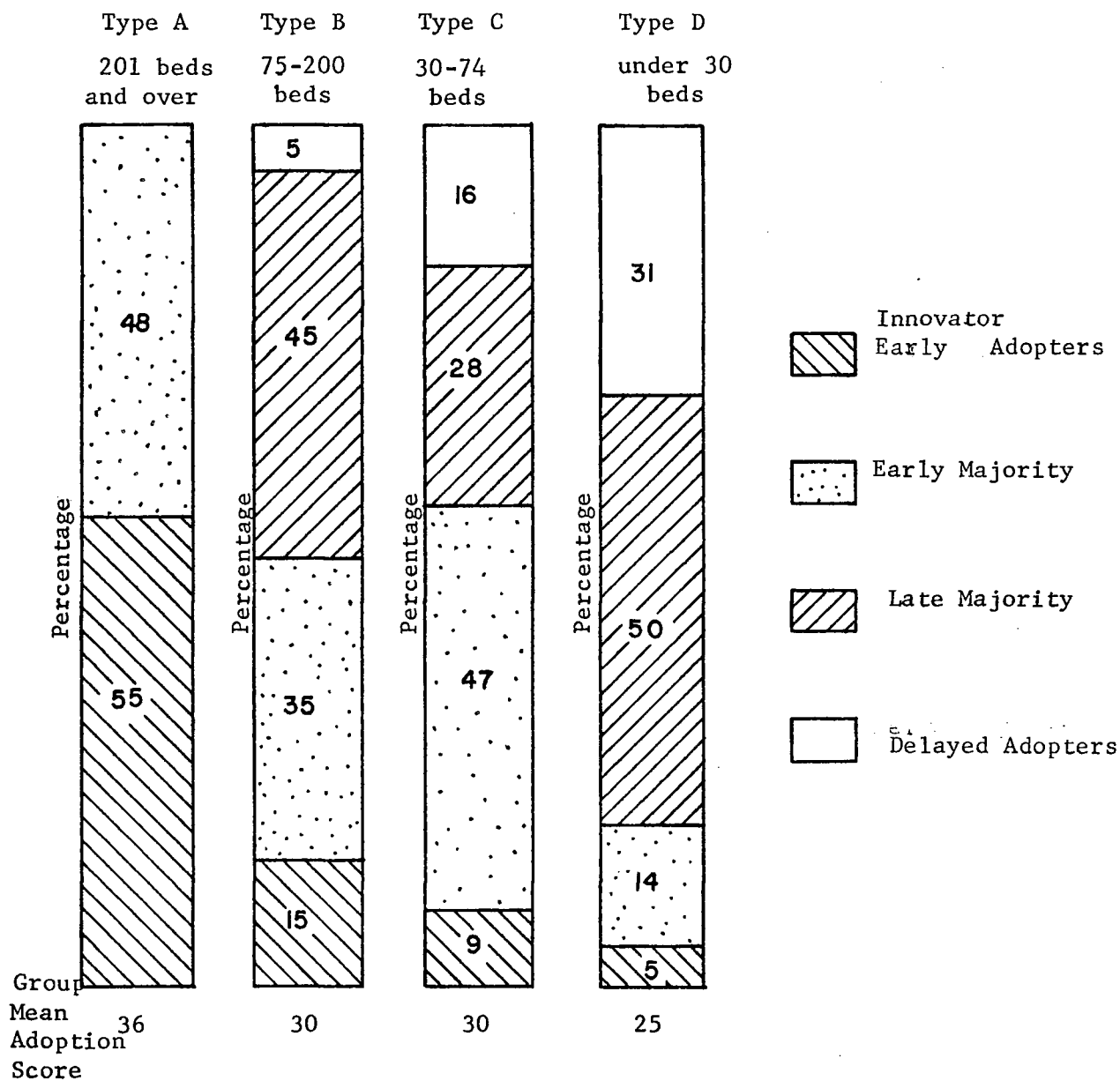


FIGURE 22: Percentage of hospitals in each adopter category, by size of hospital.

. . . the sociometric stars are among the last to adopt the drug; but when they finally do, all other members except the real diehards fall in line immediately.⁴

Status of the Hospital as a Teaching Institution

The operation of a nursing school in conjunction with a hospital would seem to be a logical impetus to keeping up with changes in nursing practice. This is borne out in the findings from this study. Of the six teaching hospitals in the province, all but one were in the innovator-early adopter category and this one ranked in the early majority group. The Mean Adoption Score of the teaching hospitals was considerably higher than that of any other single group.

A comparison of percentages of teaching and non-teaching large hospitals (Type A) in each adopter category is shown in Figure 23.

Geographic Location of the Hospital

Accessibility to information sources has been shown to be a factor influencing the adoption of innovations.⁵ The principal sources of new information in nursing for the province of British Columbia appear to be in Vancouver where the two largest teaching hospitals, the university, and the office of the provincial nursing association are located. It stands to reason that the greater the distance of a hospital from Vancouver, the fewer are its opportunities to learn of new ideas and practices in nursing, and one would expect the rate of adoption of innovations to be slower. This would, indeed,

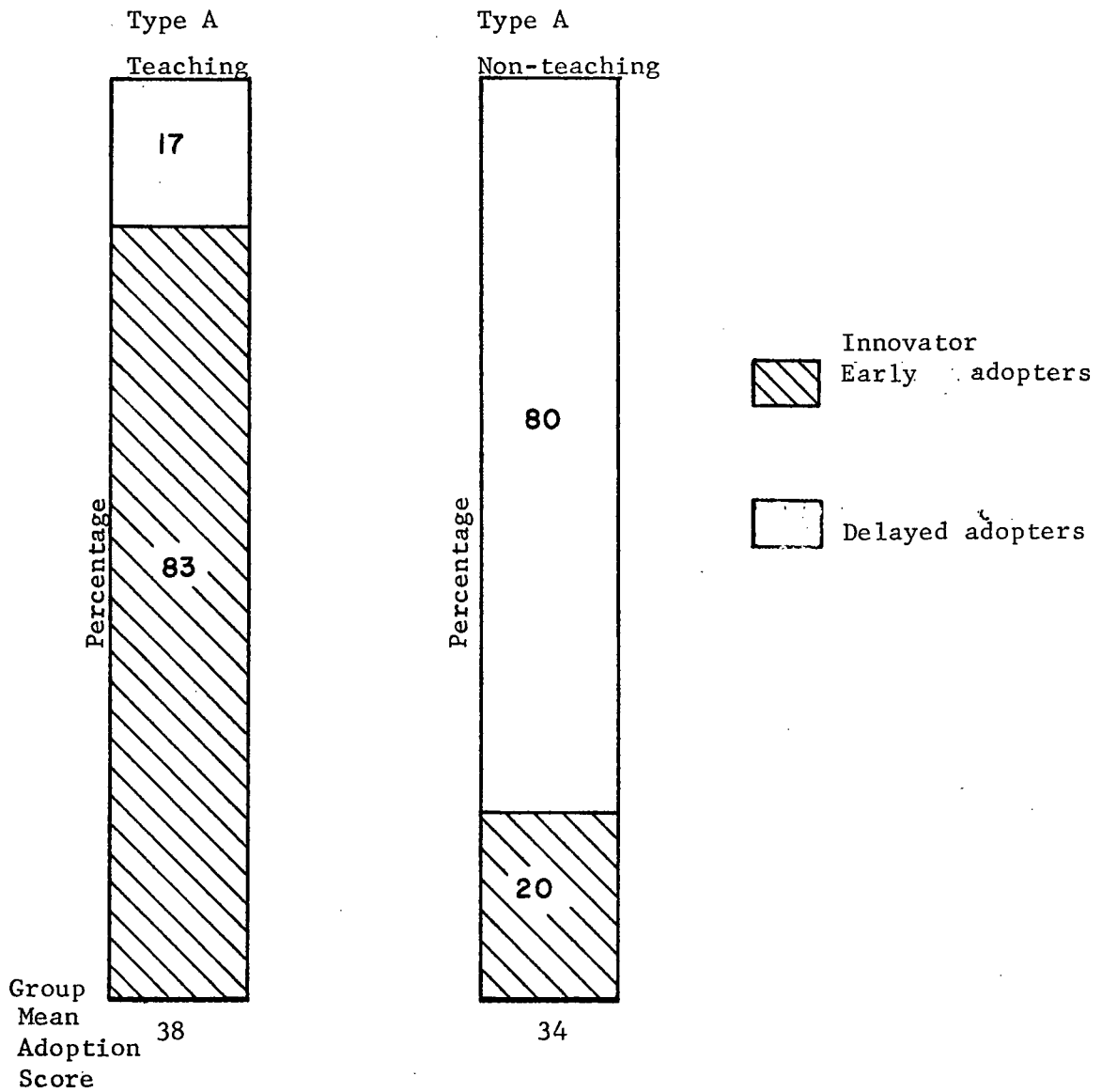


FIGURE 23: Percentage of large hospitals in each adopter category by teaching status of hospital.

seem to be the case.

Figure 24 shows the percentage distribution of participants in each of the adopter categories by location of the hospital according to natural geographic boundaries. These locations are numbered approximately in order of the distance from Vancouver. Figure 25 shows the districts compressed into two groups, the first comprising hospitals in the Lower Mainland and Vancouver Island Areas, where there is the greatest density of population, the second, all others. While both early and late adopters were found in all parts of the province, the general trend was for the earlier adopters to be in the more populous regions, where communication is easier, and the later adopters in the more sparsely settled regions. The Group Mean Adoption Score of hospitals located in more rural areas was correspondingly lower than that of hospitals in the Lower Mainland or on Vancouver Island.

For a more detailed analysis of the factor of geographic location, the hospitals were divided into groups by: (1) natural boundaries (as above), (2) organization into districts of the British Columbia Hospital Association, and (3) division by incorporated districts of the Registered Nurses' Association of British Columbia.

The Mean Adoption Scores of hospitals in each district, according to these three groupings, are shown in Table XXII, the districts

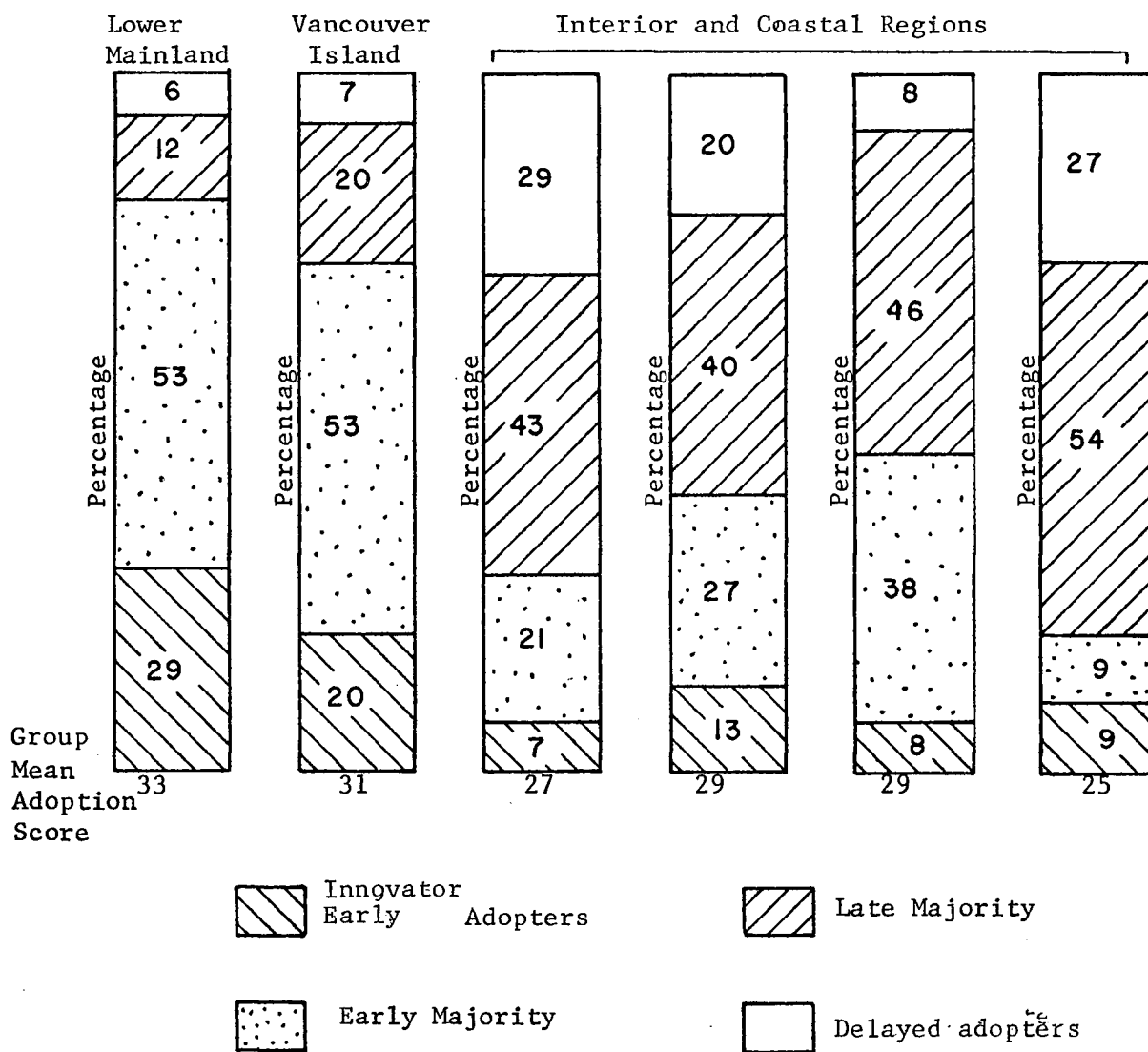


FIGURE 24: Percentage of hospitals in each adopter category, by geographic location of the hospital: 6 areas of the province.

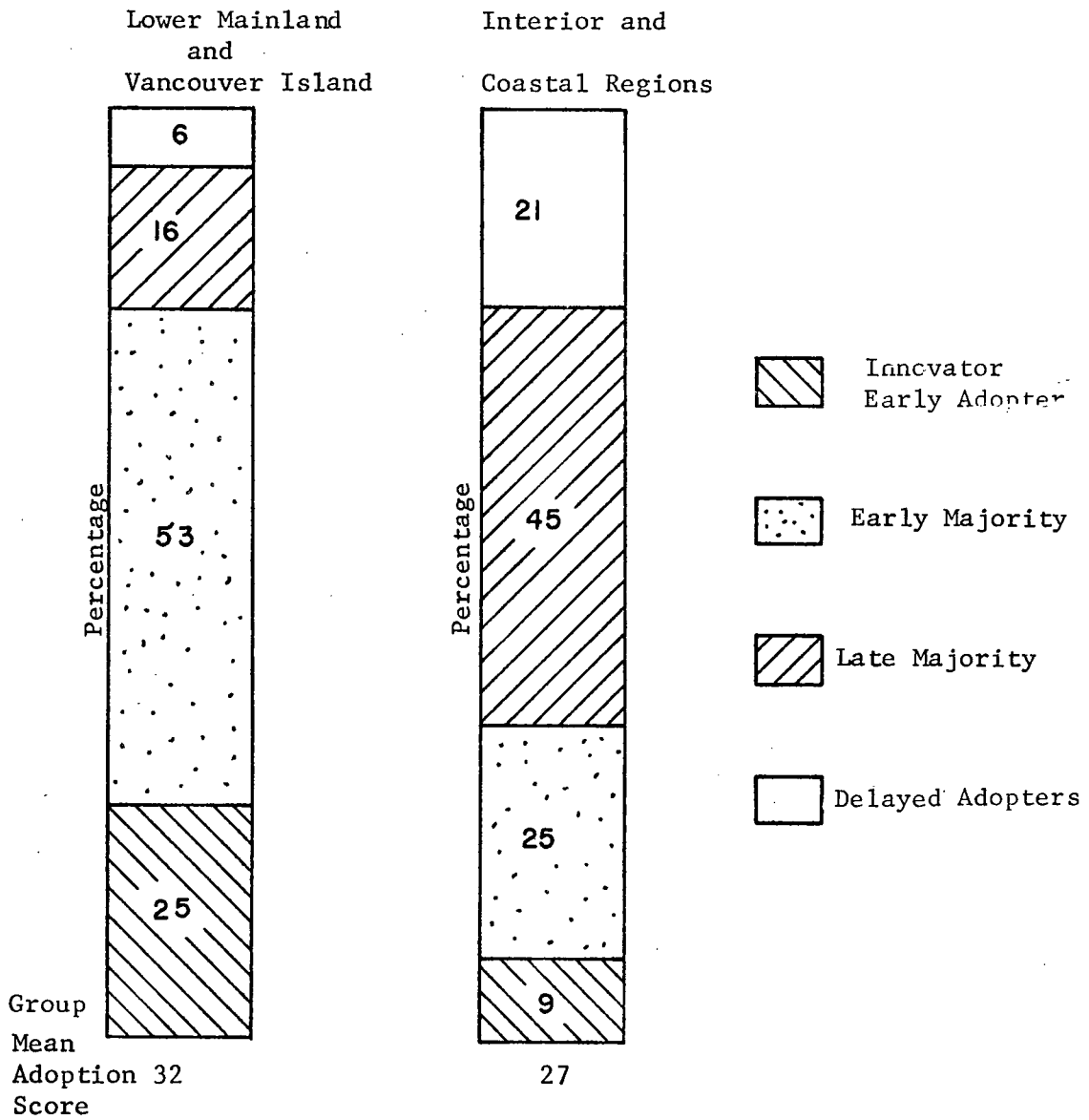


FIGURE 25: Percentage of hospitals in each adopter category, by geographic location of the hospital: 2 divisions of the province.

TABLE XXII
GROUP MEAN ADOPTION SCORES OF HOSPITALS IN
VARIOUS AREAS OF THE PROVINCE

Location by Natural Geographic Boundaries		Location by B. C. H. I. S. District		Location by R. N. A. B. C. District	
No. of Hospitals	Adoption Score	No. of Hospitals	Adoption Score	No. of Hospitals	Adoption Score
1 17	<u>33</u>	1 10	<u>32</u>	1 7	<u>33</u>
2 15	<u>31</u>	2 10	<u>32</u>	2 11	<u>32</u>
3 14	27	3 15	<u>31</u>	3 3	<u>35</u>
4 15	29	4 14	27	4 9	<u>34</u>
5 13	29	5 8	27	5 11	29
6 11	25	6 7	31	6 5	29
		7 10	30	7 6	28
		8 11	26	8 5	32
				9 3	27
				10 5	30
Not in District				20	25

Note: Scores of hospitals on the Lower Mainland and Vancouver Island
are underlined

again numbered approximately in order of increasing distance from Vancouver. The Group Mean Adoption Scores of hospitals in districts on the Lower Mainland and Vancouver Island are underscored. It is interesting to note that some districts seemed to be more innovative than others even though their apparent accessibility to information sources in the Vancouver area is less. But, perhaps the most significant finding is that hospitals in areas not incorporated into districts of the Registered Nurses' Association had a much lower Group Mean Adoption Score, 25, than any others. This is again consistent with the findings of workers in other fields where socio-metric ties and participation in professional organizations have been shown to be important variables in the diffusion and acceptance of new practices.⁶

Accreditation of Hospitals

In order to be accredited by the Canadian Council of Hospital Accreditation, a hospital must meet high standards in relation to all facets of its operation, including the nursing component. At the time this research was in progress, thirty-three of the total eighty-five hospitals included in the study were accredited.

Figure 26 shows a comparison of hospitals in the four adopter categories according to their accreditation status at the time of the study. The majority of the accredited institutions (two-thirds) were

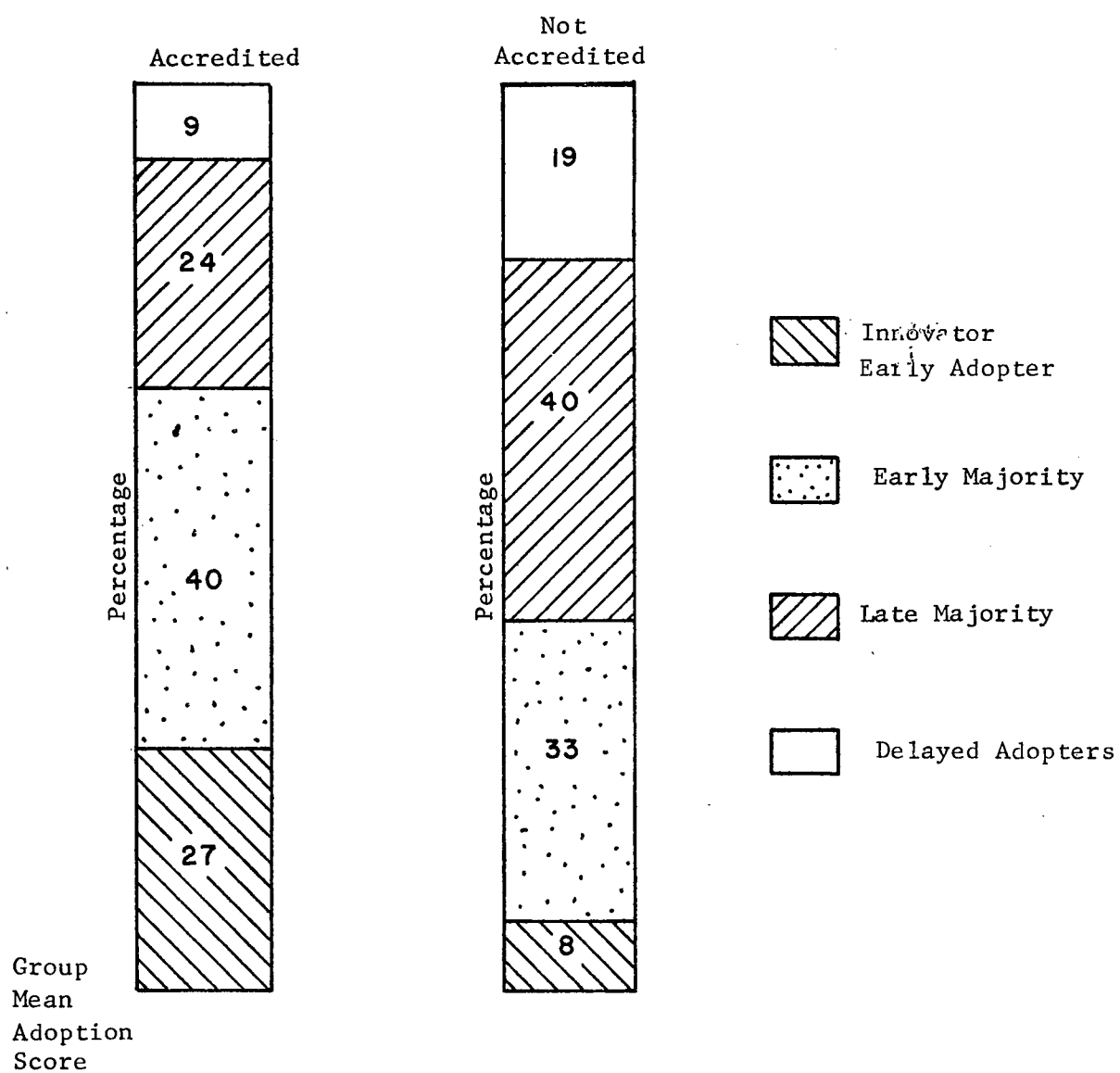


FIGURE 26: Percentage of hospitals in each adopter category, by accreditation status of the hospital.

amongst the earlier adopters while a minority were in the later adopter categories. The reverse is true of the non-accredited hospitals and the Mean Scores of accredited and non-accredited hospitals reflect the same trend.

The meeting of certain standards in relation to their overall operation thus appears to be a factor in a hospital's acceptance of new ideas and practices in nursing, as evidenced by a higher rate of adoption of nursing innovations.

II. CHARACTERISTICS OF THE DIRECTOR OF NURSING

Research by other workers has indicated a positive correlation between personal characteristics of the superintendent of a school district, and adaptability of a school system.⁷ Because each of the public general hospitals included in this study functions as an autonomous institution operated by its own Hospital Society, the Director of Nursing assumes much the same role as the superintendent of a school district. She is the principal decision-maker with regard to nursing practices within the hospital, as the school superintendent is in regard to educational practices within his district. It is logical to suppose, then, that characteristics of the Director of Nursing may be a factor in the adoption or rejection of innovations in nursing. The characteristics studied were (1) age, (2) professional nursing experience, (3) marital status, (4) educational attainment, (5) participation in professional

nursing organizations, (6) professional reading habits, and (7) perception of the progressiveness of the hospital in which she was employed.

Age as a factor in adoption

Age, per se, as a factor influencing the adoption of new ideas and practices, is a controversial one in the literature.⁸ In this study, the median age category of the participants was forty-five to forty-nine years, considerably higher than the average age for all nurses in Canada, which is thirty-two years.⁹ Only nine Directors of Nursing in the hospitals studied were under thirty-five years of age.¹⁰ For comparison of the data relative to age and adopter category, the participants were divided into two groups, those in the median age category or below, and those above the median.

Figure 27 shows the percentage of participants in each adopter category who were in the median age group or younger and the percentage above the median.

The late majority group had the greatest proportion of older nurses with approximately two-thirds of the participants in this category being above the median age. The delayed adopters had the next highest percentage of their group in the older age brackets, although it should be noted that they also had some of the youngest. Participants in the earlier adopter categories were predominantly younger on the whole than the later adopters. This finding is consistent

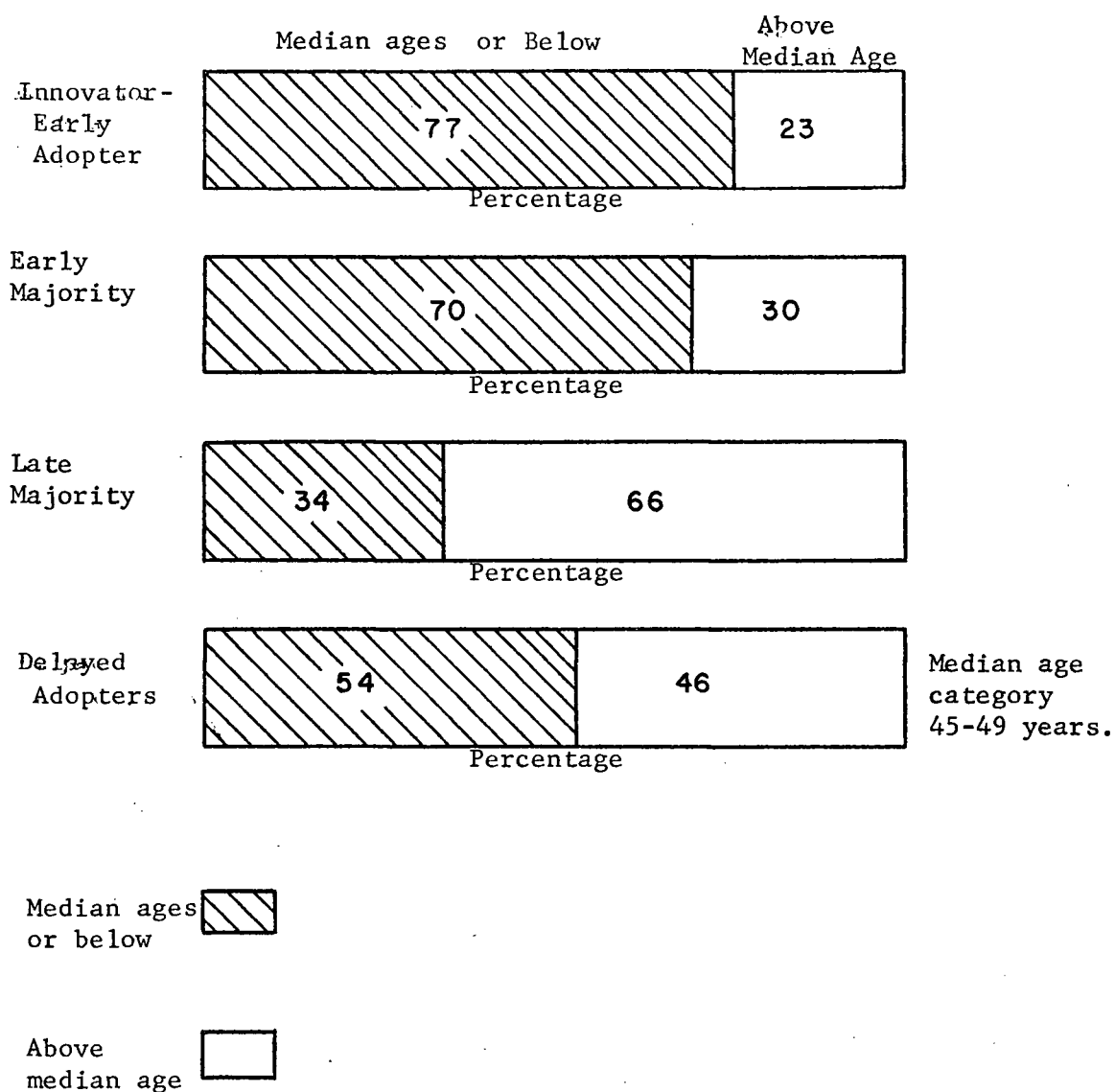


FIGURE 27: Participants in each adopter category:
Percentage median age or less and
Percentage above the median.

with Rogers' generalization that "earlier adopters are younger in age than later adopters."¹¹

Professional Nursing Experience

Closely related to the factor of age is the number of years the participant had been engaged in professional nursing practice. Data were gathered on three factors relative to time involvement in nursing: (1) date of the participant's graduation from her basic nursing program, (2) whether she had worked in nursing continuously since graduation, and (3) number of years in nursing altogether. These factors were then studied in relation to the adopter category of the hospitals in which the nurses were employed.

Date of Graduation from Basic Nursing Program

As one would expect from the data on age, the majority of participants had graduated from their basic nursing programs more than twenty years ago. The median category for date of graduation for the total population was twenty to thirty years. The same trend was found in relation to date of graduation from basic nursing program as with age of the participants. The proportion of nurses who had graduated more than thirty years ago, that is, before those in the median category, was greater in the later adopter group than among earlier adopters.

Figure 28 shows the percentage of earlier and later adopters who graduated less than, and more than thirty years ago.

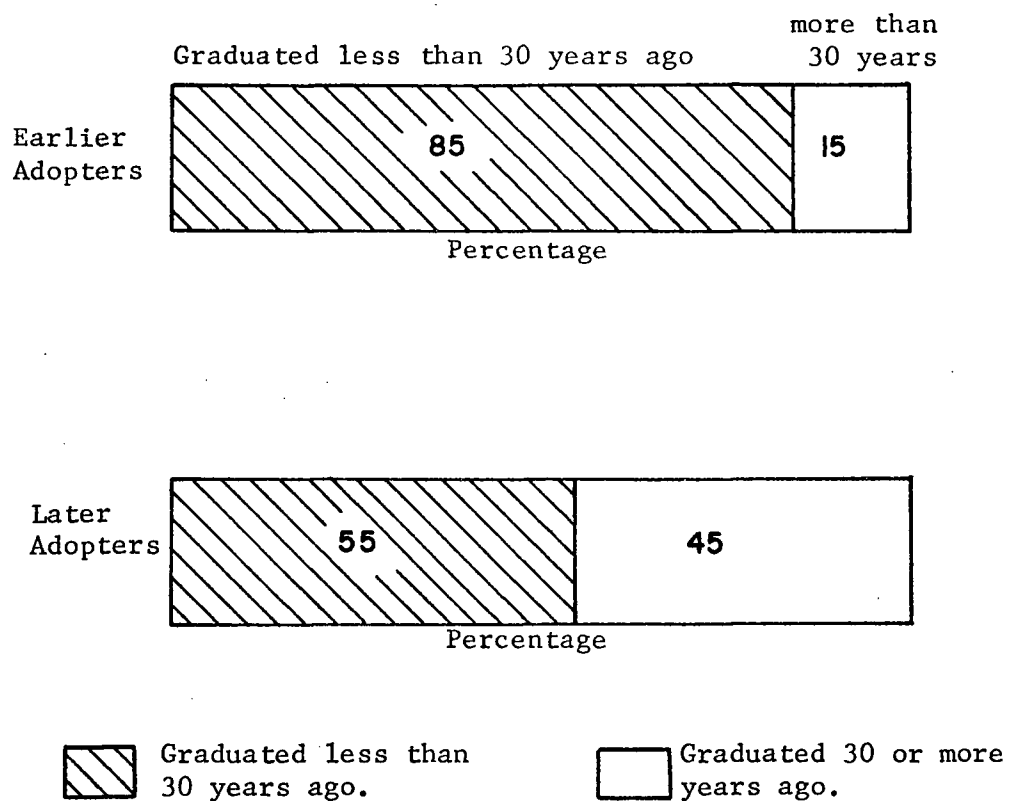


FIGURE 28: Participants in earlier and later adopter categories: Percentage who had graduated more than and less than thirty years ago.

Continuous Employment in Nursing

Only a little over one half (forty-nine or 58 per cent) of the Directors of Nursing who participated in this study had had uninterrupted careers in the profession. Many had been away from nursing for varying periods of time because of marriage and family responsibilities, returning to work after their children were in school or circumstances were such that they had to support themselves and their family.

Whether a participant had worked in nursing continuously since graduation or not, appears to have some bearing on her keeping up-to-date with current developments in the field. The majority of nurses who had worked continuously were in the earlier adopter groups whereas the biggest percentage of those with interrupted careers were among the later adopters. The Mean Adoption Score of the continuously employed group is correspondingly higher (32) than that of the group who had been out of nursing for a period of time (26).

The percentage of earlier and later adopters among participants who had worked in nursing continuously since graduation and those with interrupted careers is shown in Figure 29

Total Number of Years in Nursing

The total number of years a participant had worked in nursing did not appear to be as closely related to adopter category as date of

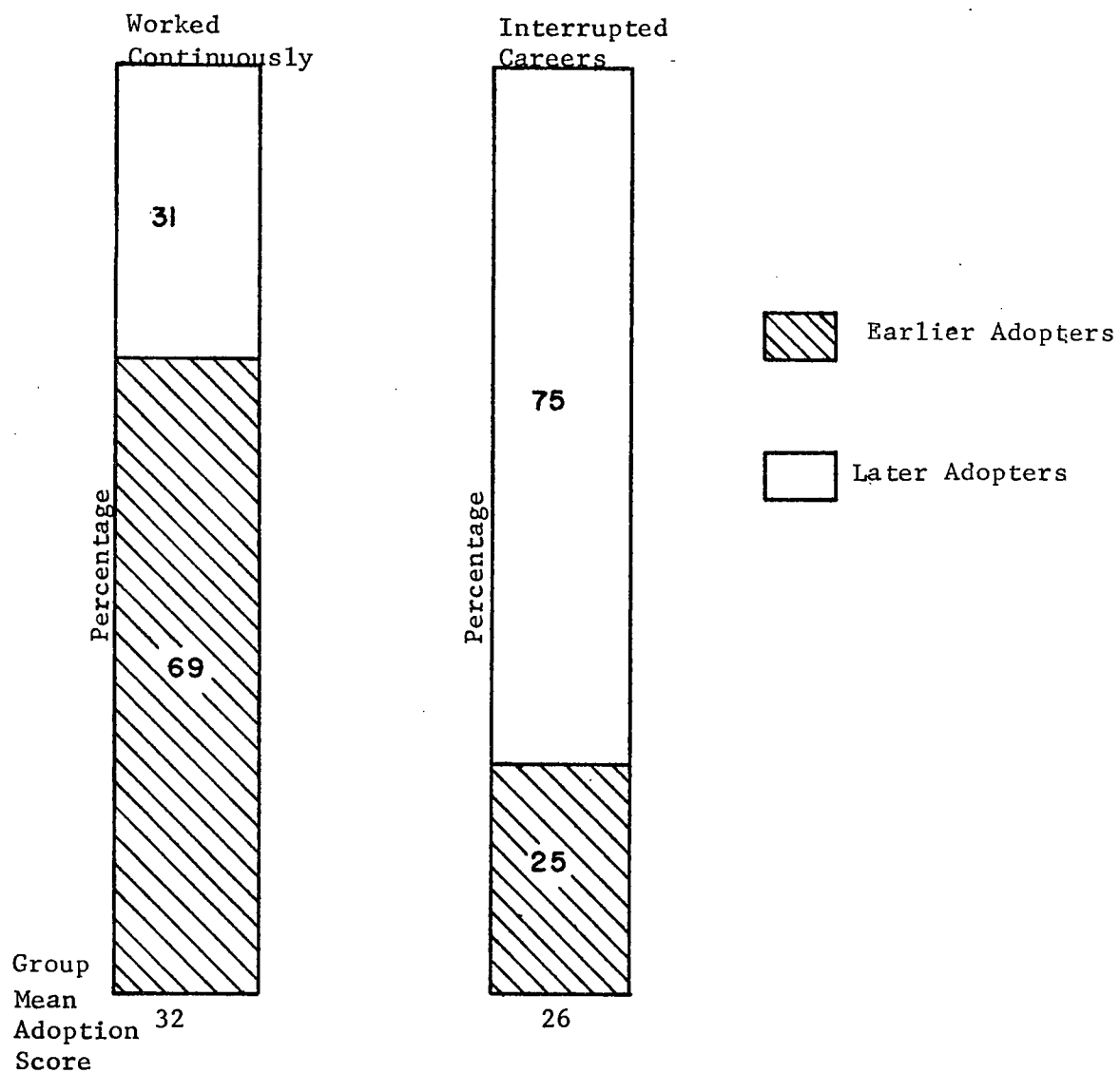


FIGURE 29: Percentage of participants in earlier and later adopter categories, by continuous employment in nursing.

graduation. The majority had been in the field for over twenty years and the median category for the total population was twenty to twenty-nine years, which is consistent with the median category for date of graduation from basic nursing program. All adopter categories showed a fairly wide range of participants with differing lengths of experience in nursing, although there were no nurses with less than five years of experience among the innovator and early adopters, and there was a higher proportion of nurses who had been employed in nursing more than thirty years among the later adopters. The Mean Adoption Score (25) of the nurses who had worked the longest was lower than that of other groups.

The frequency and percentage distribution of total number of years in nursing by adopter category is shown in Table XXIII.

Tenure

The mean turnover rate of Directors of Nursing employed in public general hospitals in Canada is 17.41.¹² Fourteen of the participants in this study (16 per cent) had been in their present position less than one year, so the population in this regard would appear to be fairly representative of the national average. In this study the median length of time a nurse had been in her present position as director was three to five years.

TABLE XXIII FREQUENCY AND PERCENTAGE DISTRIBUTION OF PARTICIPANTS IN
EACH ADOPTER CATEGORY, BY NUMBER OF YEARS OF EXPERIENCE
IN NURSING

Number of Years in Nursing	Less than 5	5 - 9	10 - 14	15 - 19	20 - 29	More than 30	Total
Adopter Category							
Innovators and Early Adopters	-	2 25%	1 7%	2 17%	7 18%	1 13%	13
Early Majority	1 33%	2 25%	6 43%	6 50%	13 33%	2 25%	30
Late Majority	2 67%	2 25%	5 36%	2 17%	15 38%	3 38%	29
Delayed Adopters	-	2 25%	2 14%	2 17%	5 13%	2 25%	13
TOTALS	3 100%	8 100%	14 100%	12 100%**	40 100%**	8 100%**	85
GROUP MEAN ADOPTION SCORE	<u>27</u>	<u>28</u>	<u>30</u>	<u>28</u>	<u>30</u>	<u>25</u>	

* Median Category

** Percentages have been rounded off to the nearest whole number and
therefore, do not total exactly 100%.

The percentage distribution of participants in each adopter category, by tenure in present position is shown in Figure 30.

The group with six to ten years of tenure had the highest percentage of innovators and early adopters while both this group and those who had been in their positions less than one year, had the largest overall proportion of earlier adopters. There were no participants in the delayed adopter category in either of these two groups while their Group Mean Adoption Scores were also higher than those of participants in other categories of tenure.

The participants with eleven to twenty years in the same position had the lowest percentage of earlier adopters and the lowest Group Mean Adoption Score.

These findings would seem to indicate that a new Director of Nursing introduces a number of changes during her first year and, again, after she feels secure in her position, following five years of tenure. Those who remain in the same position more than ten years would appear to be less adaptable to change.

Marital Status and Number of Children

There were an equal number of married and single participants (40 per cent of each) in the population as well as seventeen (20 per cent) who were widowed, separated or divorced. The single nurses were thus

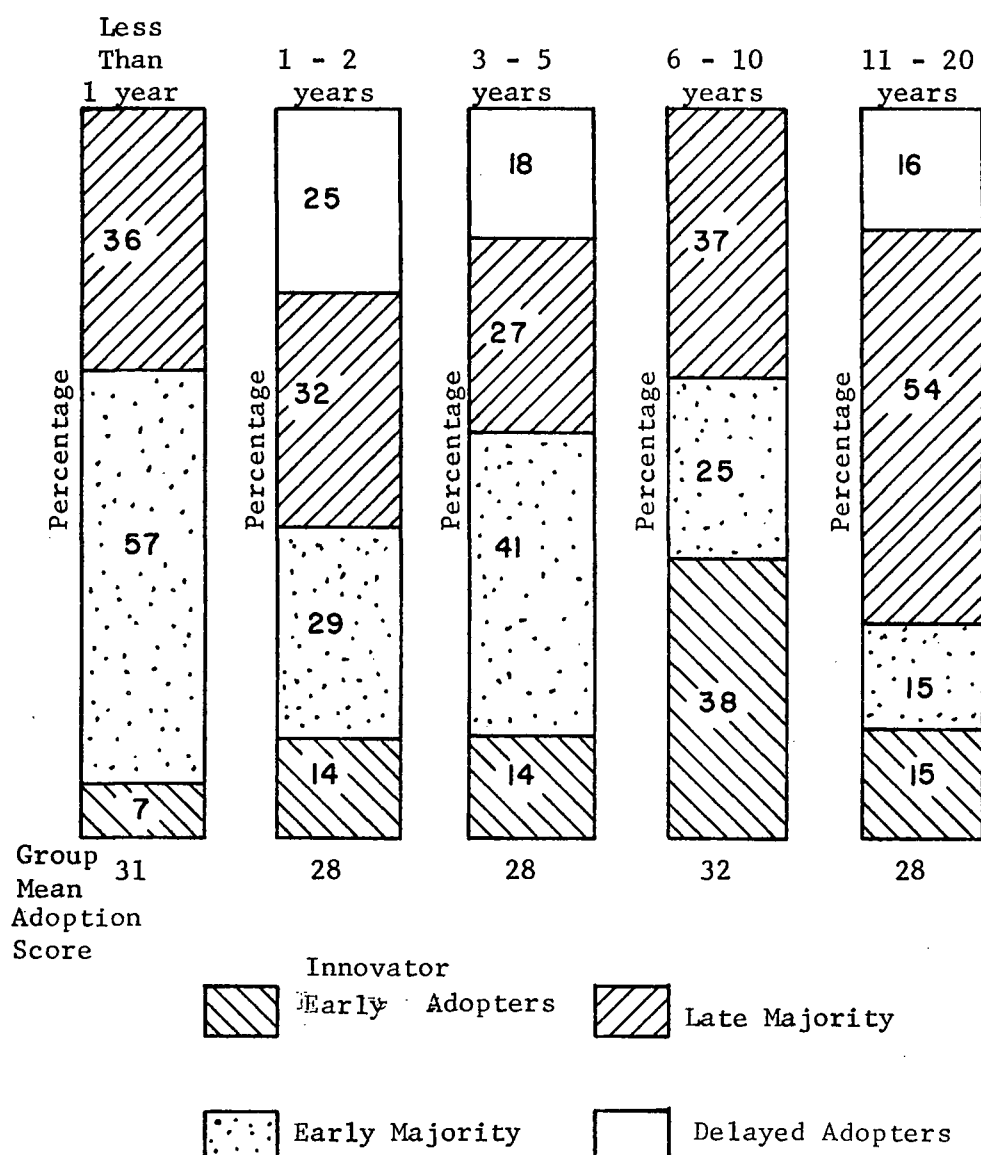


FIGURE 30: Percentage of participants in each adopter category, by tenure in present position.

in the minority but their proportion of earlier adopters was greater, as shown in Figure 31. For comparison purposes, the total population was divided into two groups, the single nurses and all others.

Forty participants, almost one half of the total population (47 per cent) had children. In relating this factor to adopter category, the findings are consistent with those in regard to marital status. The nurses without children were predominantly in the earlier adopter group, whereas the majority of those with children were among the later adopters. A comparison of the percentage of earlier and later adopters among the participants who had children and those who did not is shown in Figure 32.

Educational Attainment

In this study, all of the participants had completed a basic program in an approved school of nursing. Thirty-two (38%) had additional university preparation, the extent varying from one year of studies to attainment of a master's degree. A number had taken post-graduate clinical courses or other educational programs including correspondence and night-school courses, and all but nine attended at least one short continuing education program for nurses in the past five years.

Academic Achievement

With regard to academic achievement as measured by number of years of school completed or degree obtained, the relationship

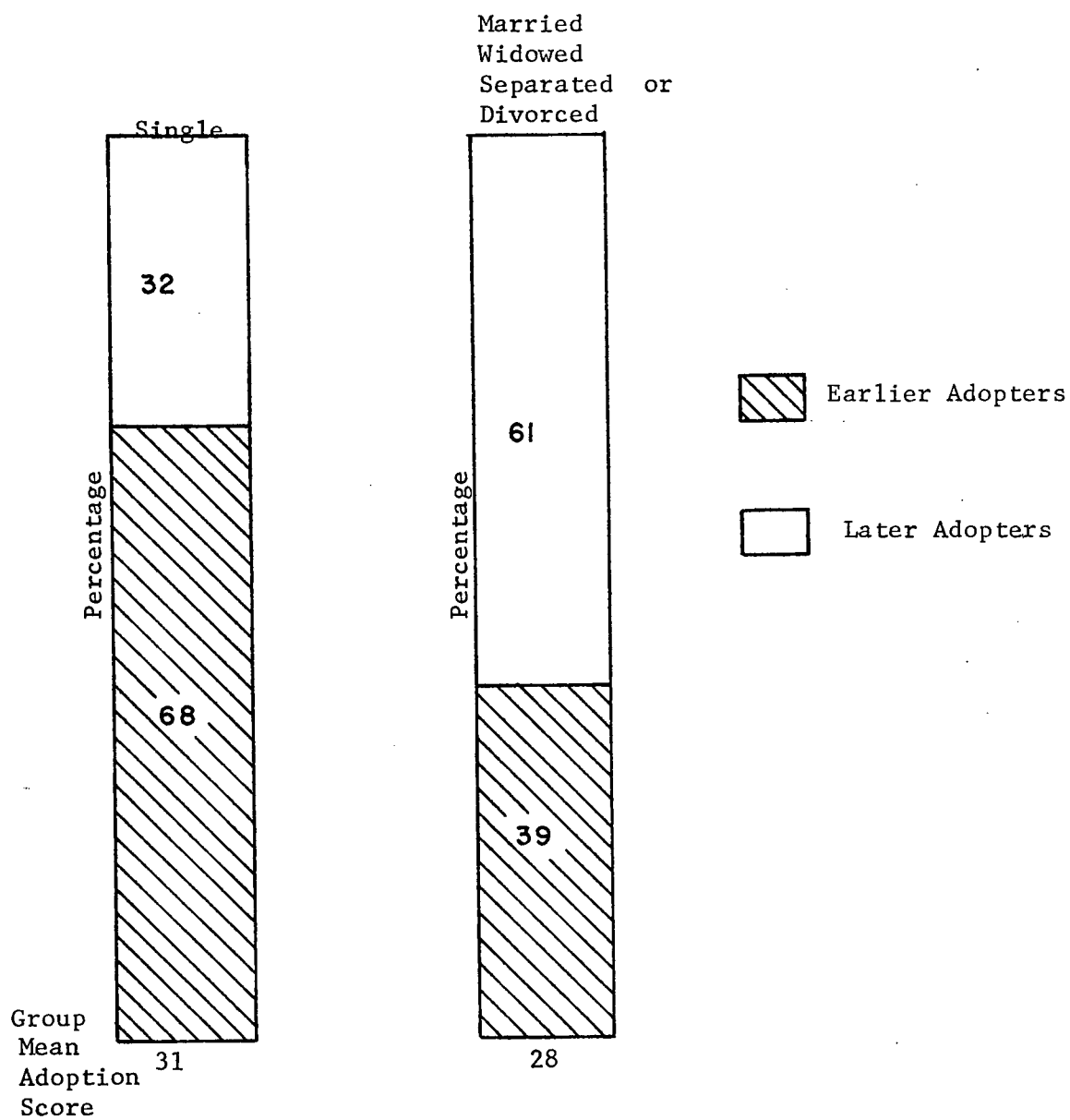


FIGURE 31: Percentage of participants in earlier and later categories, by marital status.

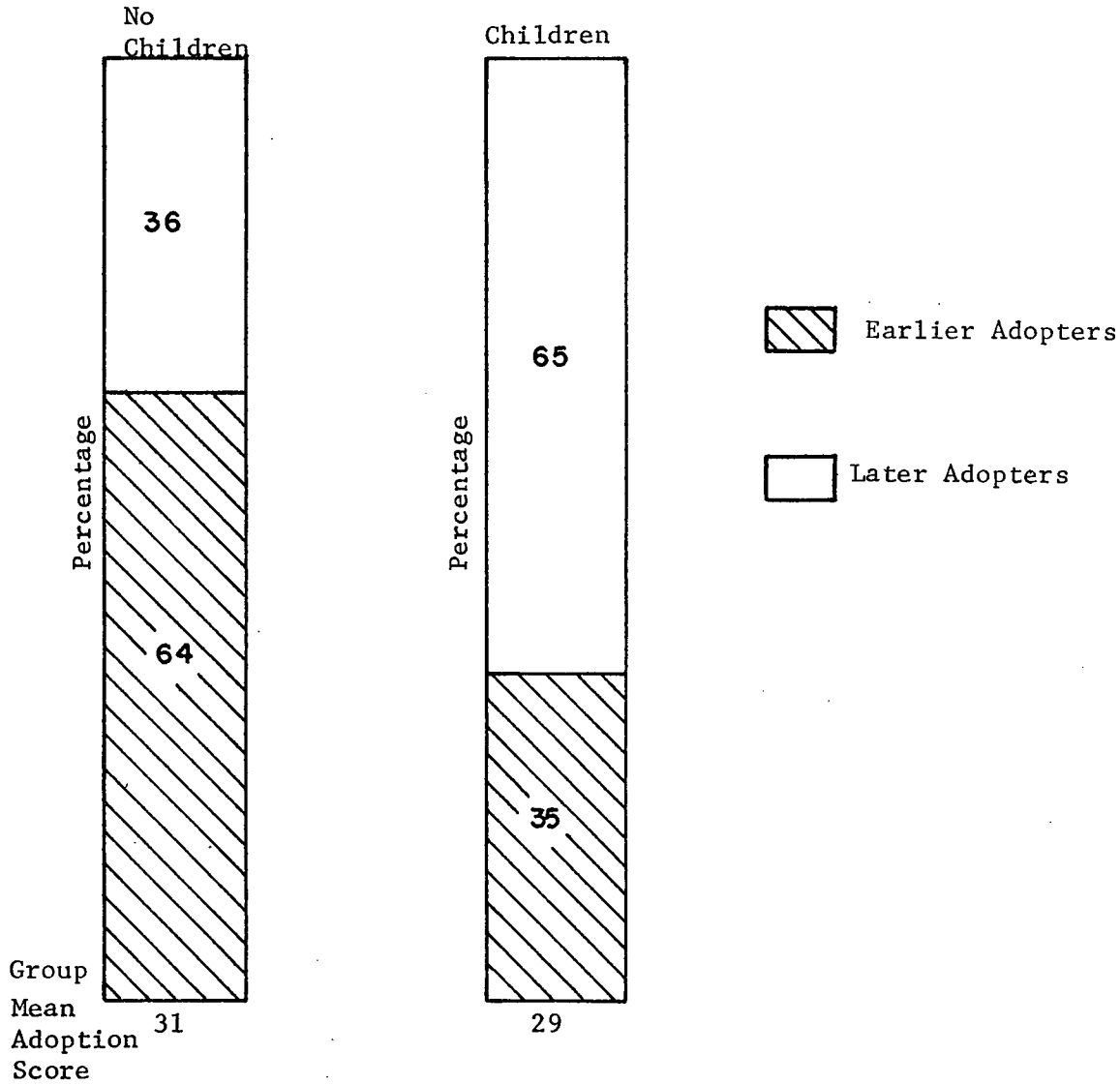


FIGURE 32: Percentage of participants in earlier and later adopter categories, by number of children of participant.

between education and adoption appears to be significant in the findings from this study.

The percentage of innovators and early adopters increased steadily as the academic level rose. The group with the least academic preparation (minimum requirements for entrance to a school of nursing) had the lowest percentage of innovators and early adopters and a majority of this group were among the later adopters. The participants who had completed one to two years of university showed an equal distribution of earlier and later adopters while the majority of those holding baccalaureate degrees and all of those with master's degrees were in the two earlier adopter categories.¹³

The Group Mean Adoption Scores follow the same trend with the least academically prepared nurses having the lowest score and the best educated ones the highest. Figure 33 shows the percentage distribution of participants in each adopter category by highest academic level of the Director of Nursing.

Post-Basic Educational Programs

Twenty-nine of the participants had taken post-graduate clinical courses in nursing. This did not appear to be a factor in adoption, since there were an almost equal number of earlier and later adopters among the group. Detailed tables outlining number of participants who had taken post-graduate hospital courses were given in Chapter III.¹⁴

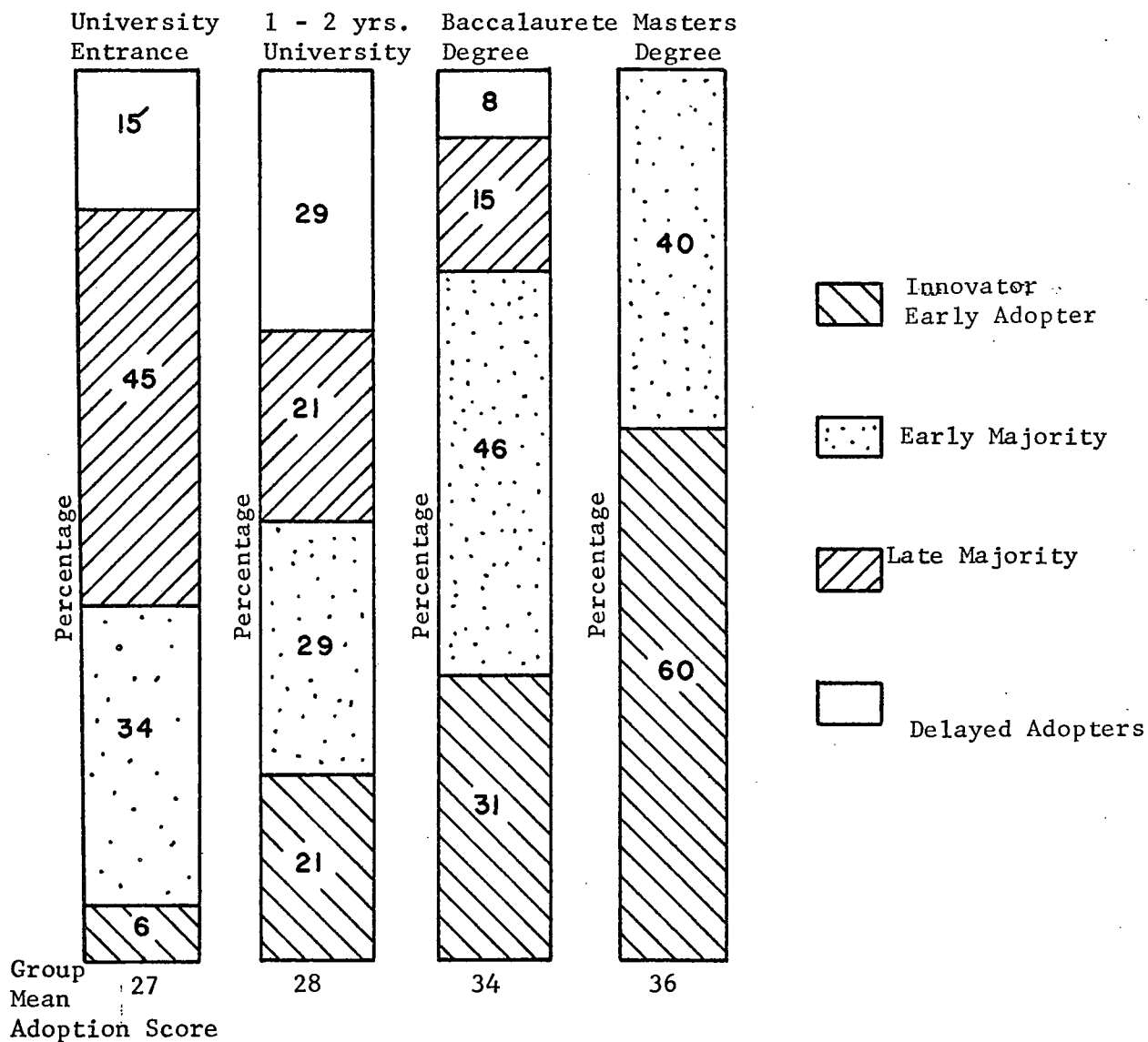


FIGURE 33: Percentage of participants in each adopter category, by academic level of participants.

On the other hand, the twenty-five nurses who had taken certificate courses at a university, such as ward administration, teaching and supervision, or public health nursing were preponderantly among the earlier adopters, so this would appear to be one educational experience contributing to early adoption of innovations.¹⁵

Another twenty-eight of the Directors of Nursing had taken the Canadian Nurses' Association Correspondence Course on Nursing Unit Administration. This did not appear to be related to the adoption score but was more closely associated with the size of the hospital, since the majority of those who had taken this course were from the smaller hospitals (under seventy-five beds).¹⁶

General Adult Education Courses

Almost one half of the participants had participated in general adult education programs, either through night school or correspondence study. Most of the courses taken were of a general interest nature.¹⁷ A slightly higher proportion of the nurses who had taken adult education programs were in the earlier adopter category, the ratio of earlier to later adopters being 23:16.

The proportion of earlier and later adopters among the participants by participation in post-basic educational programs is shown in Figure 34.

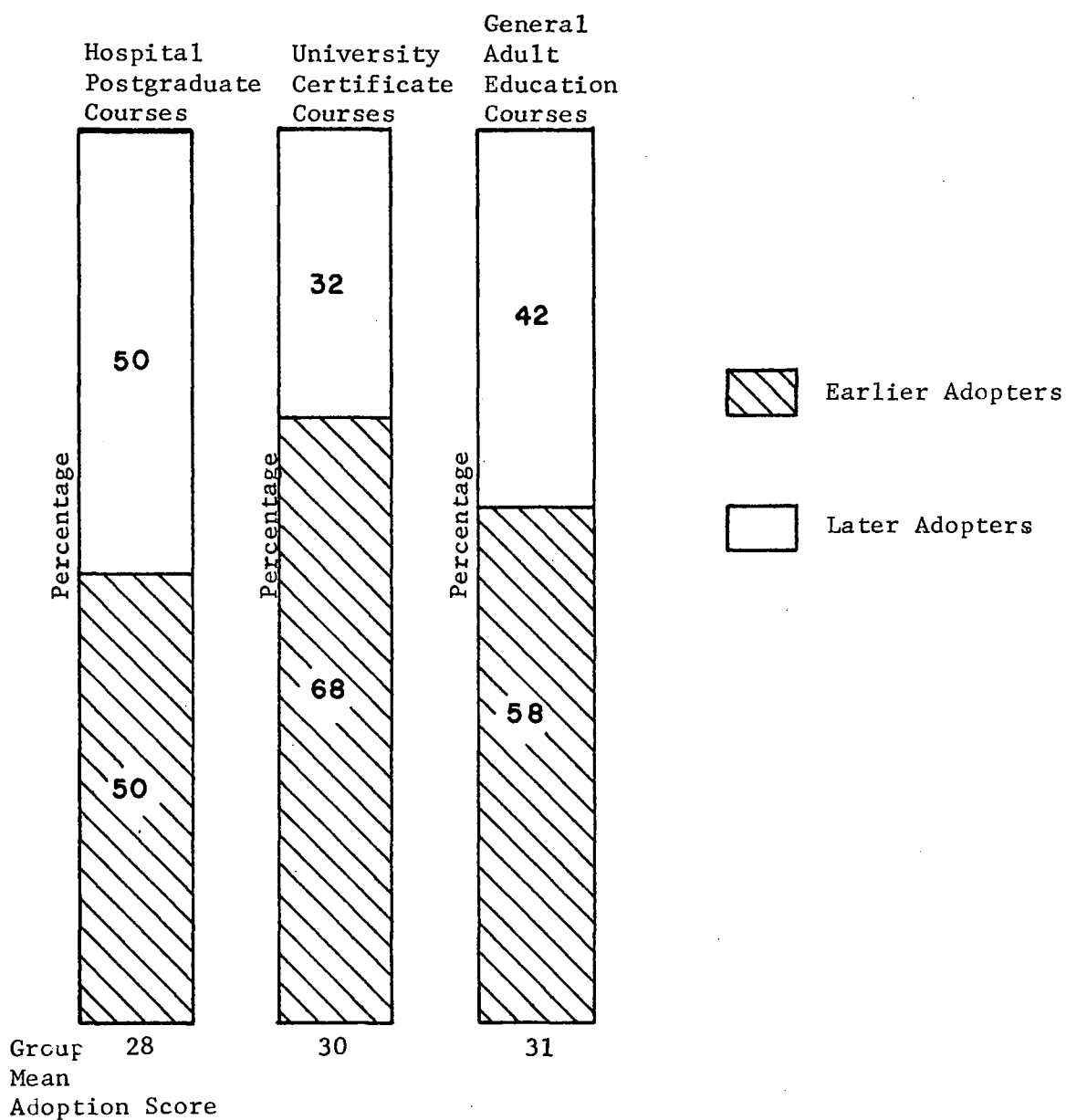


FIGURE 34: Percentage of participants in earlier and later categories, by type of further educational programs taken.

Continuing Education Programs in Nursing

All but nine of the participants had attended at least one institute, workshop or other short continuing education program for nurses. Of the nine who had attended no educational programs, seven were in the later adopter group, while the majority of those who attended the largest number of short courses (more than three) were among the earlier adopters. Perhaps the most significant finding, however, is in relation to the location of the courses attended. It would appear that the more widely afield the nurse travelled to attend courses that would keep her up-to-date with current developments in her profession, the greater was the tendency towards earlier adoption of new ideas and practices. This is again in agreement with the findings of workers in other fields who have consistently shown a relationship between early adoption and the use of cosmopolitan sources of information.¹⁸

Figure 35 shows a comparison of earlier and later adopters among participants who had attended no short continuing education programs in the past five years and those who had been to more than three, while Figure 36 shows the percentage of earlier and later adopters by location of courses attended.

Participation in Professional Nursing Organizations

Prior research has indicated that early adopters tend to belong to more formal organizations than late adopters.¹⁹

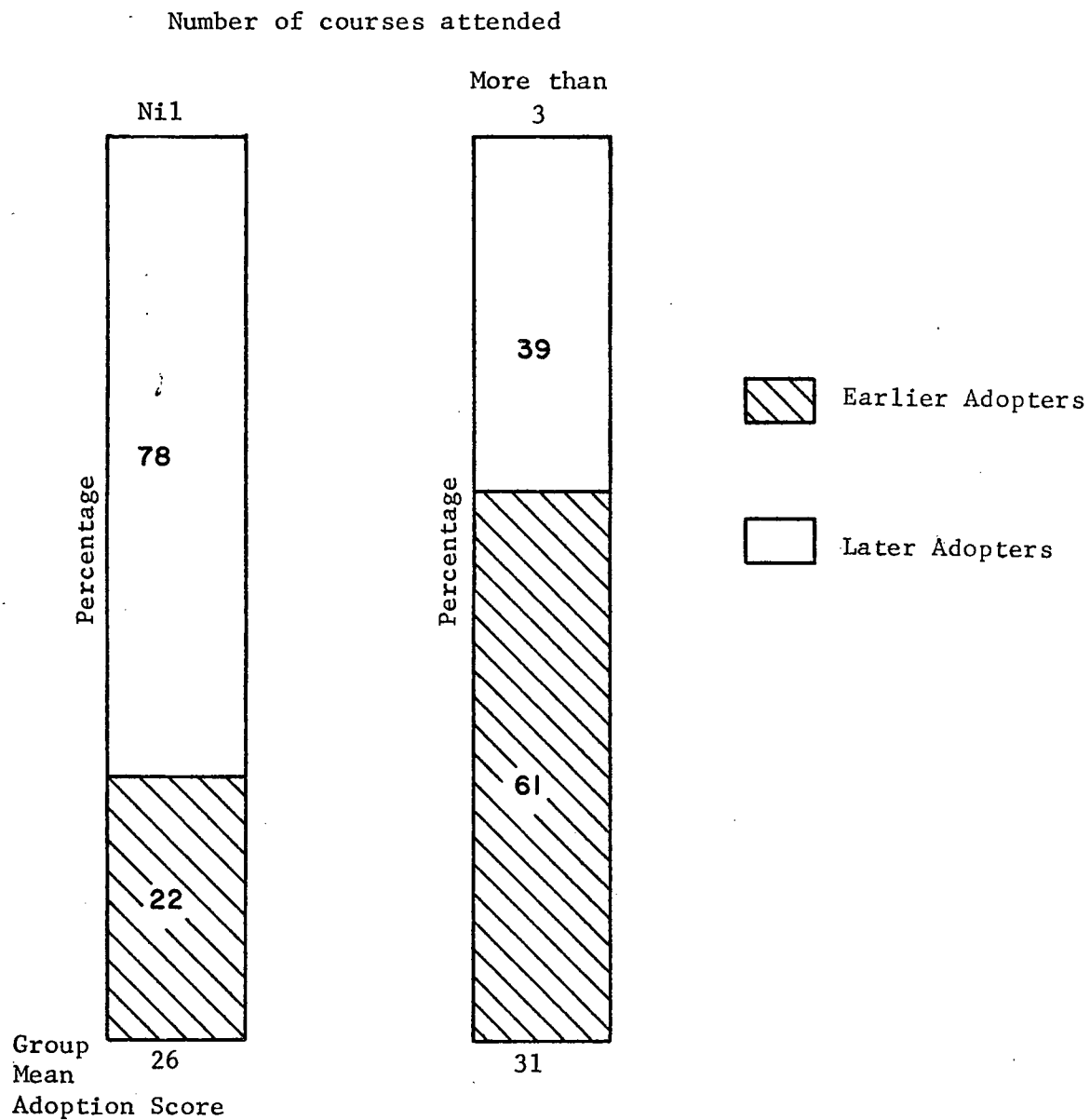


FIGURE 35: Participants in earlier and later adopter categories: Percentage who had attended no continuing education programs and percentage who had attended more than three.

Location of Programs

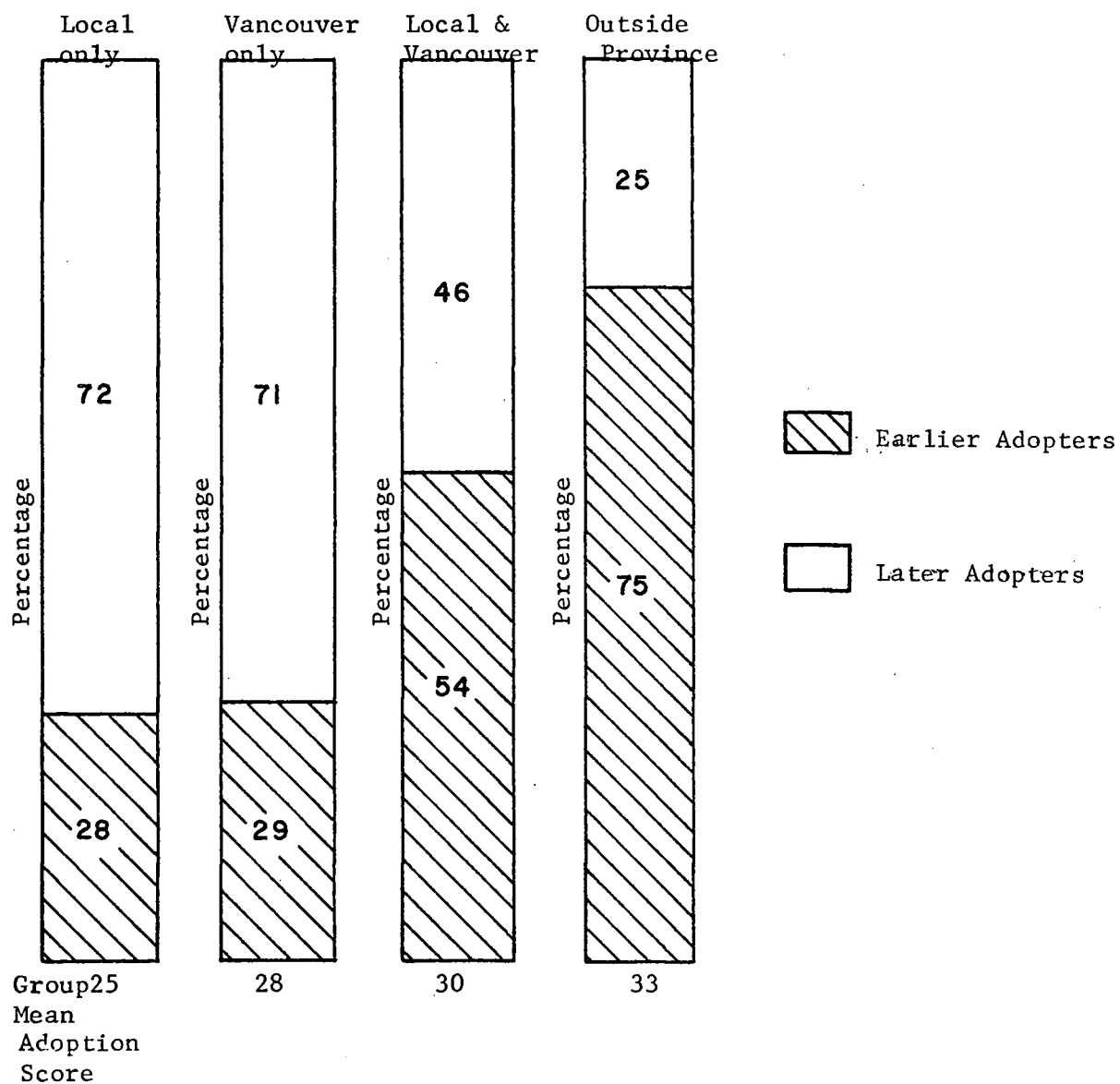


FIGURE 36: Percentage of participants in earlier and later categories, by location of continuing education programs attended.

In order to analyze the relationship between adoption and participation in professional nursing organizations, data were collected on two aspects of participation, attendance at meetings and office-holding, or committee membership, at the local, provincial and national levels of the Registered Nurses' Association. Participation in the professional nursing association was related to adopter category of the hospitals in which the nurses were employed.²⁰

At the Local Level

Twenty of the hospitals included in this study were in areas not incorporated into districts of the provincial nursing association. Four of these had a local nursing chapter in the community, however, leaving a total of sixteen participants with no local meetings to attend. The proportion of earlier adopters was low among those who rarely or never attended meetings of a local chapter of the nursing organization (including those with no meetings to attend) and the majority of these participants were later adopters. On the other hand, the proportions were reversed among those who attended always, most of the time, or sometimes. The percentage of participants in each adopter category, by extent of attendance at local nursing association meetings is shown in Figure 37.

The Group Mean Scores also declined with decreasing attendance at professional meetings, the lowest score belonging to

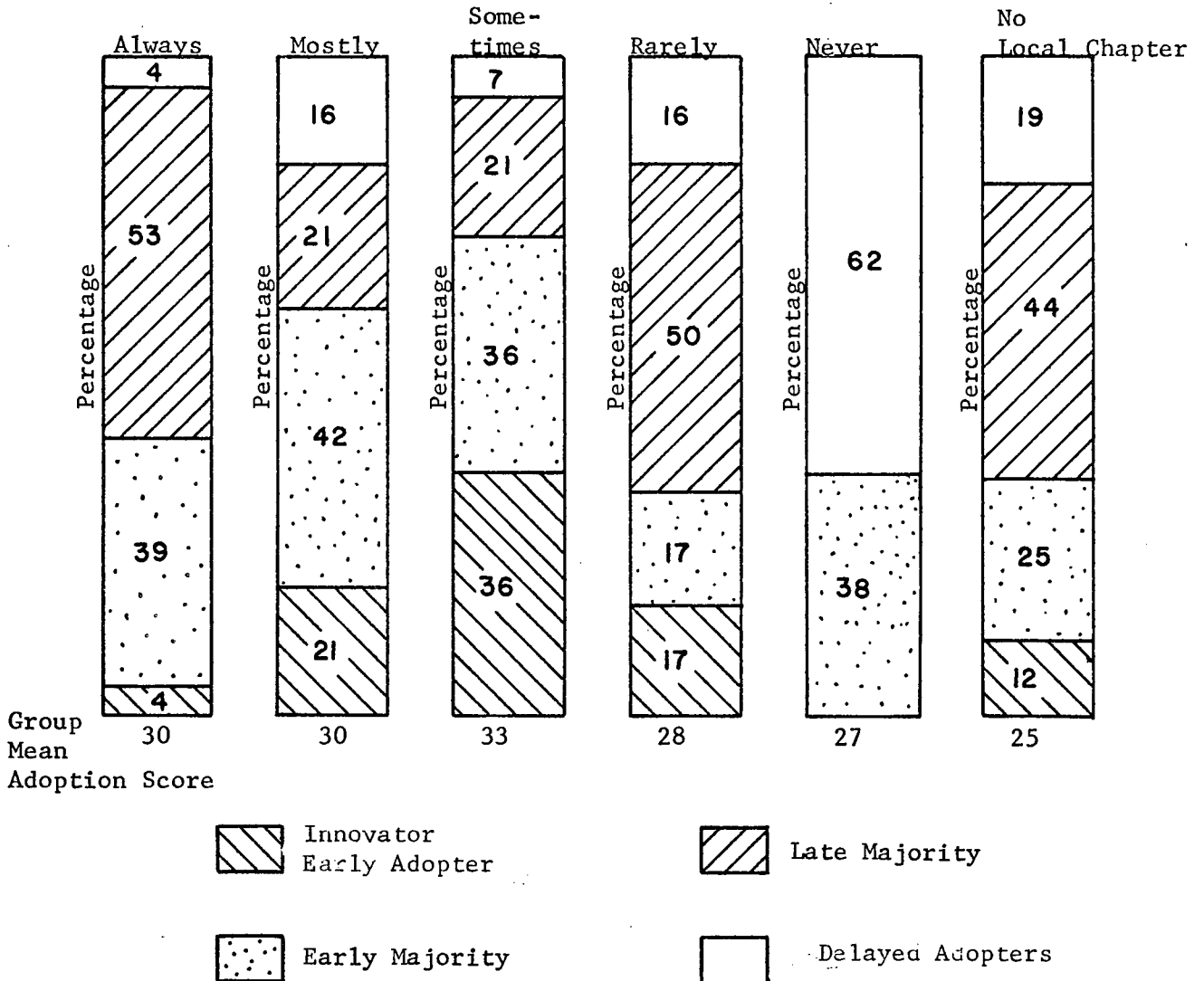


FIGURE 37: Percentage of participants in each adopter category, by extent of attendance at local professional nursing association meetings.

the group who had no local chapter in their area.²¹ Rather surprisingly, the group with the highest Mean Adoption Score and greatest proportion of earlier adopters were the participants who stated they attended local chapter meetings sometimes, but not on a regular basis.

With regard to holding office in the nursing association at the local level, the most significant finding is the very small number of participants in the delayed adopter category who had ever held a leadership position. It is this group also who had the lowest proportion attending meetings. The numbers in each adopter category currently holding, or who have held an office at the local level are shown in Table 24.

At the Provincial Level

Again, at the provincial level, those who attend Annual Meetings of the Association were among the earlier adopters and the proportion of earlier adopters went steadily downward as reported attendance at the Annual Meetings of the Association decreased. The same trend was evident in the Mean Adoption Score for the groups, as categorized by degree of attendance. This may be seen in Figure 38.

Relatively few of the Directors of Nursing had participated in the provincial nursing association to the extent of holding office or

TABLE XXIV
OFFICE-HOLDING OR COMMITTEE MEMBERSHIP
OF PARTICIPANTS IN LOCAL NURSING ASSOCIATION,
BY ADOPTER CATEGORY

Adopter Source	Currently hold	Previously held	Never held	Totals
Innovator - early adopter	1 20%	7 17%	5 11%	13 100%
Early majority	1 20%	12 40%	17 36%	30 100%
Late majority	3 60%	11 33%	15 32%	29 100%
Delayed adopters	-	3 10%	10 21%	13 100%
Totals	5	33	47	85
GROUP MEAN	28	31	29	100%

Attend Meetings

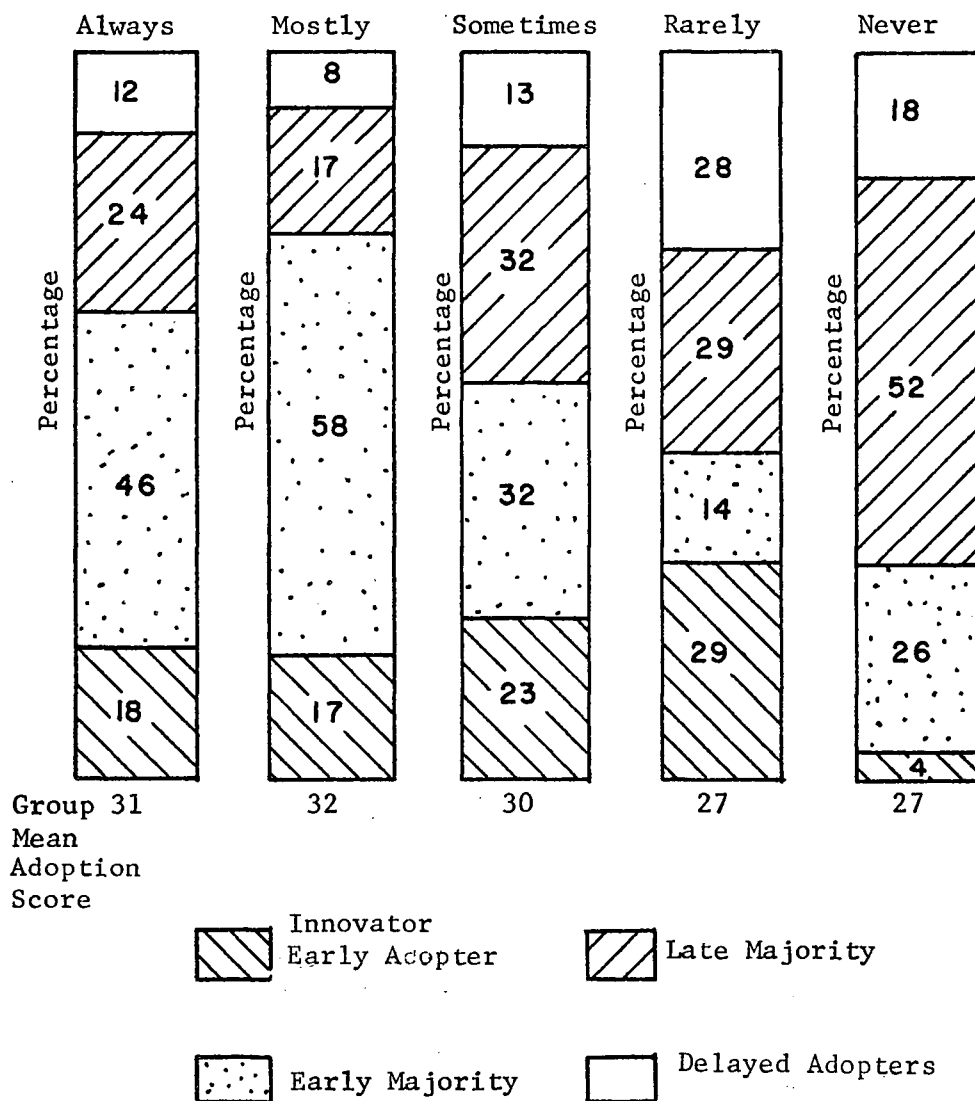


FIGURE 38: Percentage of participants in each adopter category, by extent of attendance at provincial professional nursing association meetings.

committee membership. Of the eighteen (21 per cent) who had, all but four were earlier adopters.

The details of frequency and percentage distribution of participants holding office or committee membership by adopter category are shown in Table XXV

TABLE XXV
OFFICE-HOLDING OR COMMITTEE MEMBERSHIP OF
PARTICIPANTS IN PROVINCIAL NURSING ASSOCIATION,
BY ADOPTER CATEGORY

	Currently hold	Previously held	Never held	Total
Innovator early adopter	4 50%	2 20%	7 10%	13 100%
Early majority	4 50%	4 40%	22 33%	30 100%
Late majority	-	4 40%	25 37%	29 100%
Delayed adopters	-	-	13 20%	13 100%
Total	8	10	67	
Group Mean Adoption Score	37	31	29	

At the National Level

The overwhelming majority of Directors of Nursing of the public general hospitals in this province have never attended a biennial meeting of the Canadian Nurses' Association. Once again, those who had were earlier adopters. Only one participant reported that she currently holds an office in the national organization and there were no others who had held one previously.

The percentage of participants in each adopter category, by extent of attendance at the biennial meetings of the professional nursing association, is shown in Figure 39.

Professional Reading Habits of the Directors of Nursing

Professional reading habits of the participants were investigated under four headings: (1) extent of reading of The Canadian Nurse (official journal of the Canadian Nurses' Association), (2) number of journals received other than the Canadian Nurse, (3) subscription to Nursing Research; and (4) amount of time spent in professional reading.

As mentioned earlier, all participants receive The Canadian Nurse journal. Seventy-five of the total eighty-five directors involved in the study reported that they read all or most of the articles in it. The remainder stated that they read some. The Canadian Nurse would, therefore, appear to be an important source of information for all rather than a point of differentiation between earlier and later adopters.²²

Attend Meetings

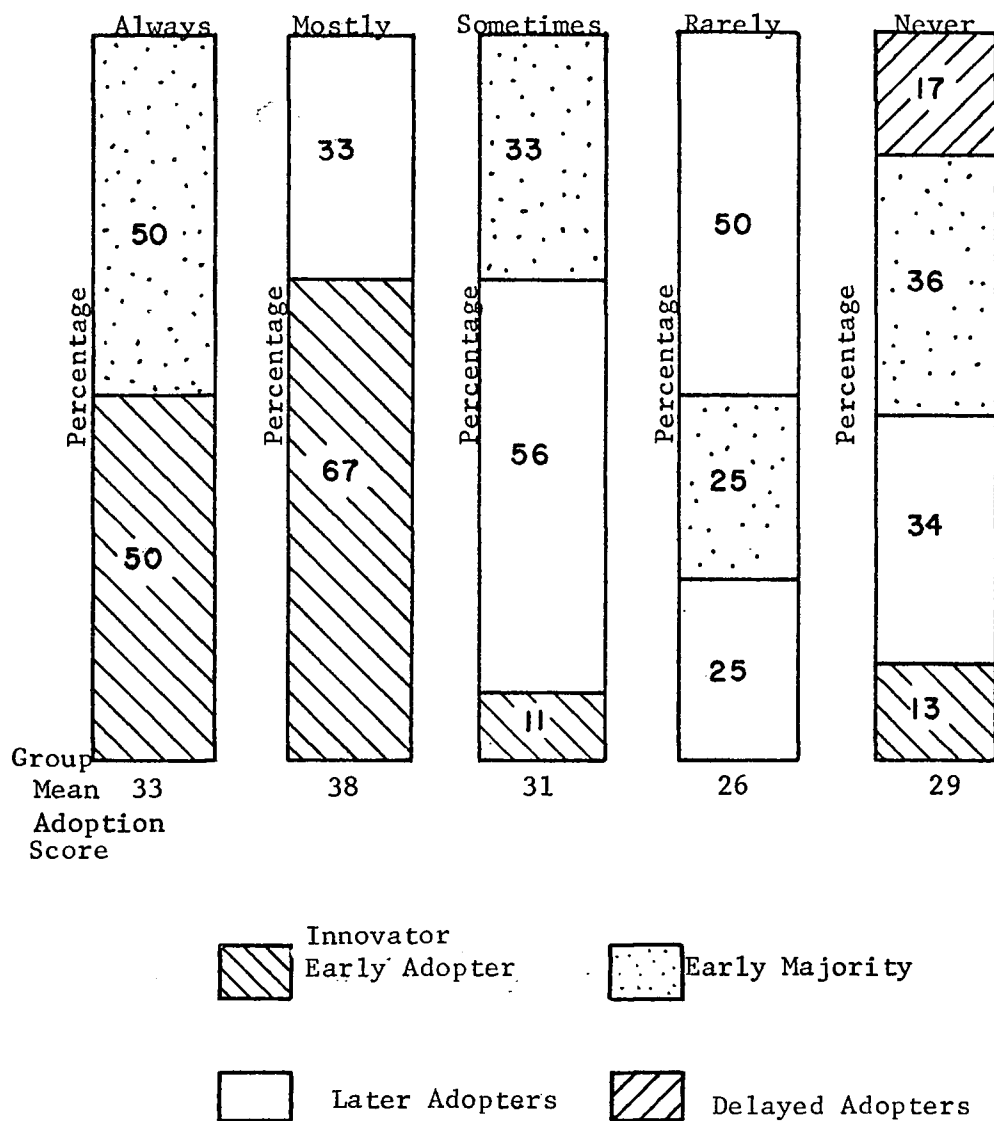


FIGURE 39: Percentage of participants in each adopter category, by extent of attendance at national professional nursing association meetings.

With regard to the number of nursing journals received by participants, the data revealed an interesting finding in that the number of journals received decrease proportionately with adopter category. The average number of journals received by participants (in addition to The Canadian Nurse) in each adopter category is shown in Table XXVI

TABLE XXVI
AVERAGE NUMBER OF NURSING JOURNALS IN ADDITION
TO THE CANADIAN NURSE RECEIVED BY PARTICIPANTS,
BY ADOPTER CATEGORY

	Number of Journals
Innovator -	
Early adopter	3
Early majority	2
Late majority	1
Delayed Adopters	0

As for subscription to the principal journal reporting research findings on this continent, only eleven participants reported receiving Nursing Research, either at work or personally. All but two of these were earlier adopters.²³

The amount of time spent in professional reading does not appear to be different between earlier and later adopters. Almost all of the participants reported that they spent anywhere from a couple of hours a week to one hour a day in reading related to their work, with only three stating that they spent less time than this.

Perception of Progressiveness of the Hospitals

In order to assess the participants' perception of the progressiveness of the hospitals in which they worked, questions were asked regarding the number of radical changes in nursing introduced in the past five years. The directors were also asked if they felt their hospital was progressive, as progressive as they thought it should be, and, if not, who was holding up progress.²⁴

The responses to these questions provided some interesting findings. The nurses' perceptions coincided fairly accurately with the hospitals' adoption scores in regard to number of new practices introduced recently. Those who felt there had been quite a few changes were predominantly in the earlier adopter categories, while those who said there had been a few, or not too many, were mostly among the later adopters. The participants who said there had been none at all, were, with only one exception, in the later adopter categories. The Group Mean Adoption Scores show the same trend and reflect the progressiveness of the hospitals as perceived by the nurses. The

proportion of earlier and later adopters in each group according to perception of progressiveness of the hospital is shown in Figure 40.

When asked directly if they thought their hospital was progressive, only two answered "not at all" and these were later adopters. The remainder said, "very progressive" or "fairly progressive" with only slight variations among the adopter categories. Forty-one participants (48 per cent) said they would like to see more progress and these participants too, were found in all categories. Very few offered an opinion as to who was holding up progress.²⁵

III. CHARACTERISTICS OF THE ADMINISTRATOR

In the organizational setup of British Columbia hospitals, the administrator is responsible for overall operation of the institution. He is the liaison between the staff and the Board of Directors, his usual role being secretary to the Board in most hospitals, rather than a voting member. As noted previously, the administrator's approval is needed before expenditures can be made, it being his responsibility to administer the total budget for the hospital.²⁶

One might expect, then, that this individual is also a factor to be taken into account in the adoption of innovations within the hospital. Characteristics of the administrators investigated in relation to adoption were (1) preparation, (2) age, and (3) prestige among

Radical Changes in Nursing

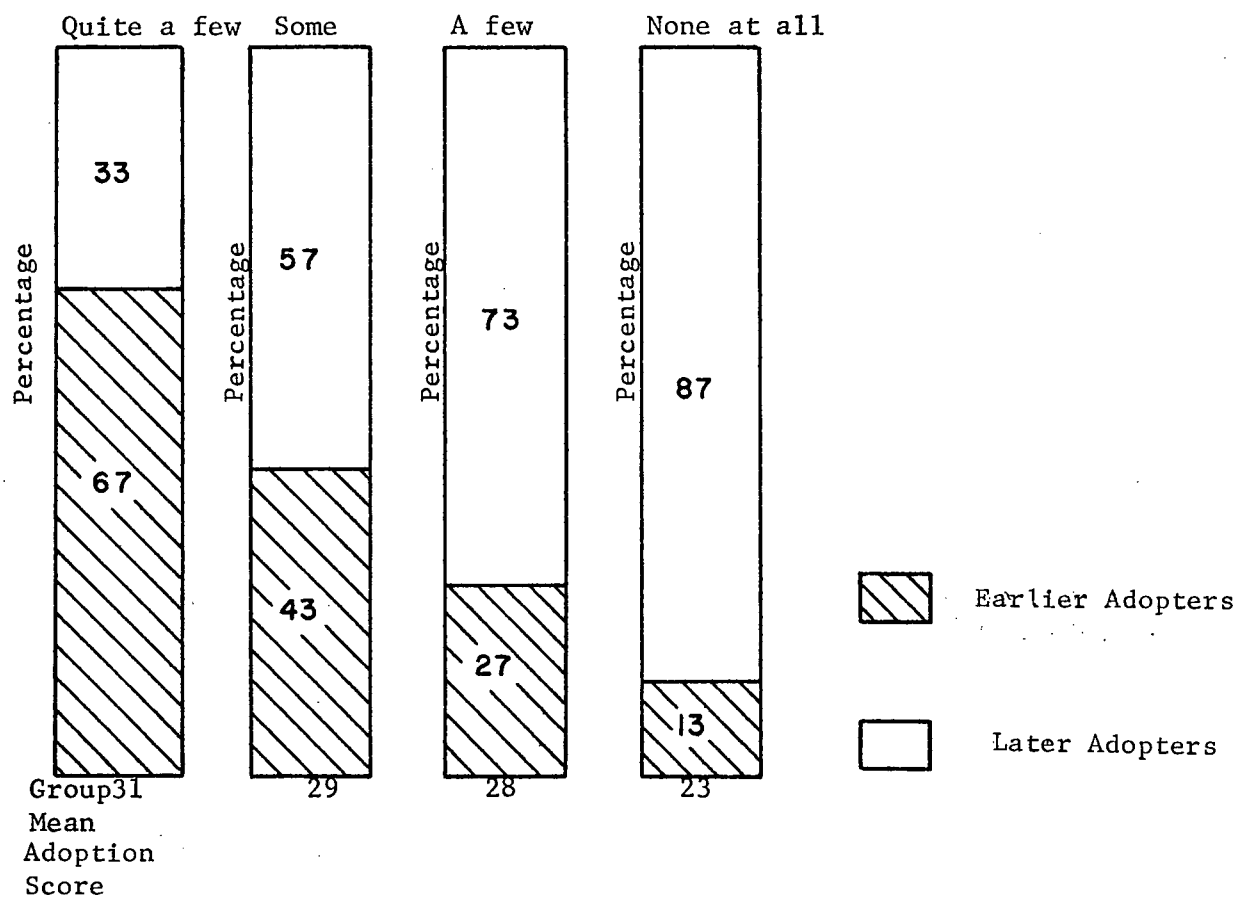


FIGURE 40: Percentage of participants in earlier and later adopter categories, by perception of radical changes in nursing introduced in hospital.

colleagues, as evidenced by affiliation with the American College of Hospital Administrators.

The majority of hospital administrators (65 per cent) in the eighty-five hospitals had had preparation in hospital administration.

As evident in Figure 41, the administrator's preparation in the field of hospital administration appeared to have an effect on the rapidity of adoption of innovations in nursing practice within the hospital. The majority of the trained hospital administrators were in hospitals which were earlier adopters, while the largest proportion of these not specifically prepared in the field were employed in hospitals in the later adopter group. The Group Mean Adoption Score of the hospitals without trained administrator was also lower.

In this study, the administrator's age did not show a significant relationship to adoption. Prestige of the administrator, however, as evidenced by his affiliation with the American College of Hospital Administrators, did appear to have an influence on adaptability of the hospital in regards to changes in nursing practice. Most of the administrators who were nominees, members, or fellows of the College were in hospitals in the earlier adopter categories, and their Group Mean Adoption score was correspondingly higher than that of hospitals in which the administrator was not affiliated with the association. The proportion of earlier and later adopters among

Administrator

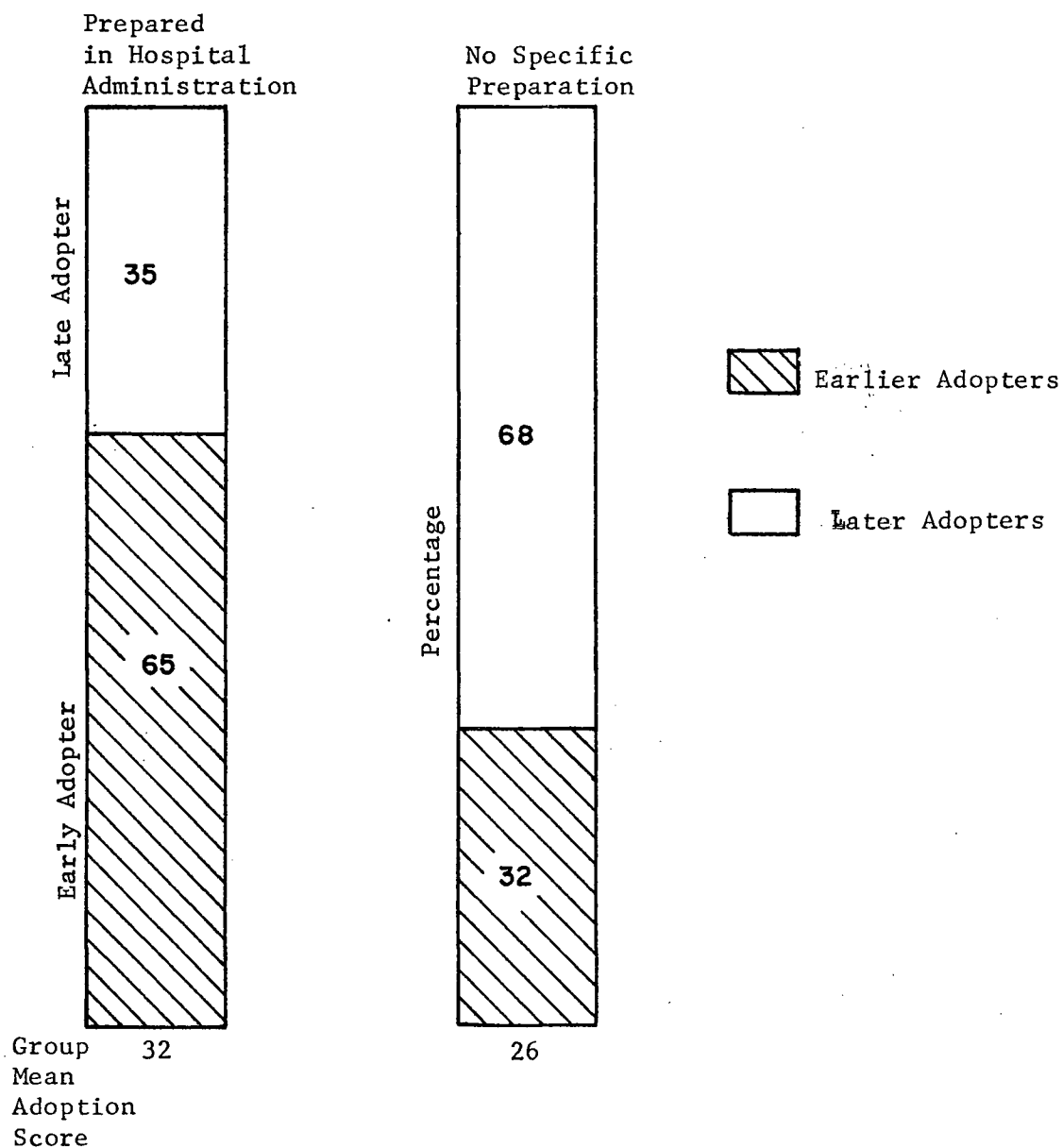


FIGURE 41: Percentage of hospitals in earlier and later adopter categories, by preparation of administrator.

hospitals in which the administrators were affiliated with the American College of Hospital Administrators compared with hospitals where the administrator was not so affiliated, and the Group Mean Adoption Scores of the two groups of hospitals are shown in Figure 42.

IV. CHARACTERISTICS OF THE NURSING STAFF

The nursing staff are undoubtedly important in the adoption of new ideas and practices in nursing. As discussed in the previous chapter on sources of information used by the Directors of Nursing, the nurses frequently bring new ideas with them when they move from one hospital to another and also when they return from educational meetings. The nursing staff are almost without exception, consulted when new ideas are evaluated for trial or adoption.²⁷

The characteristics of the nursing staff investigated in relation to adoption were (1) relative age of the staff, (2) where the nurses had taken their basic nursing program, and (3) policies of the hospital in regard to attendance of nursing staff at educational meetings.

Since the overwhelming majority of the Directors of Nursing reported that the nurses on their staff were predominantly graduates of either British Columbia or other Canadian schools of nursing, the location of basic nursing program appears to be a characteristic common to the total population, rather than a basis for comparison between hospitals.

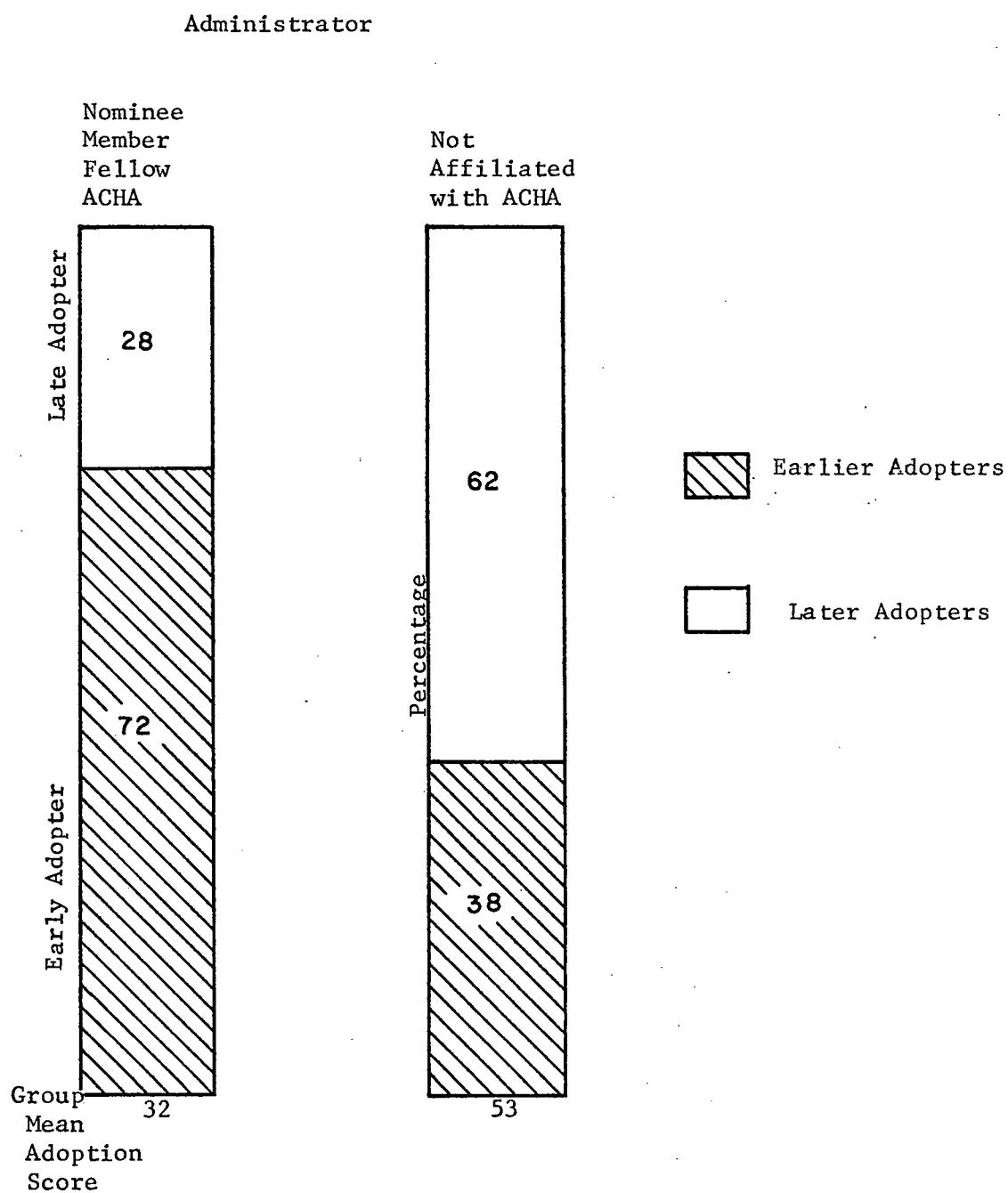


FIGURE 42: Percentage of hospitals in earlier and later adopter categories, by administrator's affiliation with American College of Hospital Administrators.

The policies of granting leave of absence with pay, and assisting nurses with the expenses involved in attending, appear to be firmly established in practically all of the hospitals included in the study.²⁸ Implementation of the policies, that is, how many nurses are able to attend educational meetings and the extent of financial assistance, does vary from hospital to hospital. The influence of the extent of attendance of the nursing staff at educational meetings on acceptance of new nursing practices might be a fruitful area for further research.

Of the three factors investigated, then, relative age of the nursing staff is the only one where there appears to be any point of differentiation between the hospitals regarding early and late adoption of nursing innovations. It would seem, from the findings, that a mixed age group amongst the nurses employed by a hospital is more conducive to adaptability to change than either a predominantly older or younger staff.

There was a higher proportion of earlier adopters among the hospitals reporting that their nurses were fairly mixed as to age, than in institutions where the staff consisted of mostly younger or older nurses. The Group Mean Adoption Score was also proportionately higher.

Figure 43 shows the percentage of earlier and later adopters among participating hospitals, by relative age of the nursing staff.

Nursing Staff

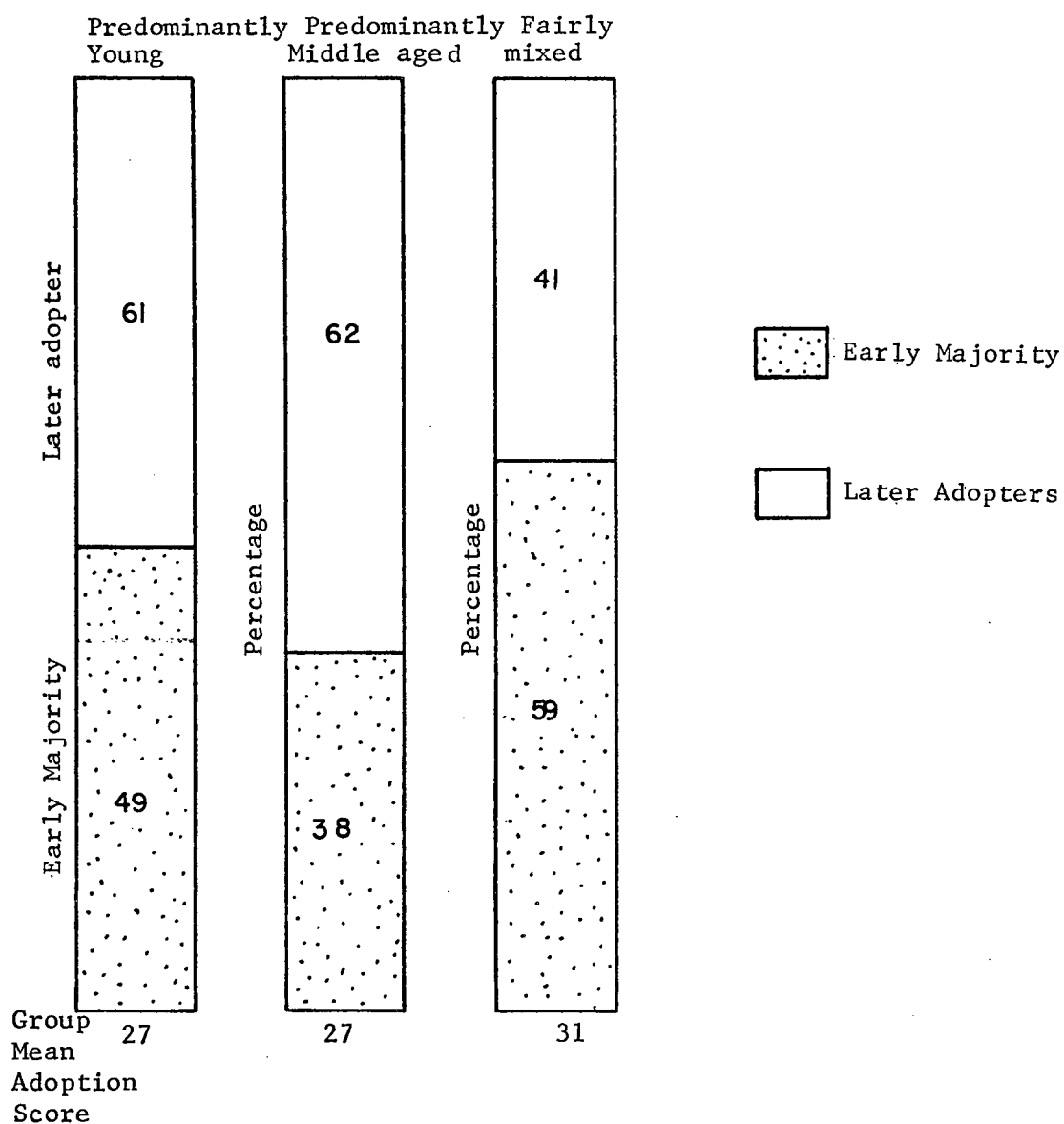


FIGURE 43: Percentage of hospitals in earlier and later adopter categories by relative age of the nursing staff.

CHAPTER V

FOOTNOTES

1. Supra, Chapter II, pp. 50-54.
2. Supra, Chapter II, pp. 52-53.
3. Supra, Chapter I, pp. 9, 10
4. Herbert Menzel and Elihu Katz, "Social Relations and Innovations in the Medical Profession: The Epidemiology of a New Drug" (The Public Opinion Quarterly, 29:4:337-352, Winter 1955-56) p. 351.
5. Supra, Chapter II, pp. 36-38
6. Supra, Chapter II, pp. 51-53
7. Supra, Chapter II, p. 53
8. Coolie Verner and Peter M. Gubbels, The Adoption or Rejection of Innovations by Dairy Farm Operators in the Lower Fraser Valley, A Report published by the Agricultural Economics Research Council of Canada (printed in Canada, June, 1967), p. 7.
9. Countdown 1968 (Ottawa, The Canadian Nurses' Association, 1969) pp. 8, 9.
10. Supra, Chapter III, p. 75
11. Everett M. Rogers, Diffusion of Innovations (New York: The Free Press, 1962), p. 172.
12. Countdown, 1968, op. cit., p. 34.
13. Cf. Chapter III, pp. 77-79.

14. Supra, Chapter III, p. 80
15. Ibid.
16. Ibid.
17. Ibid.
18. Supra, Chapter II, pp. 51, 52
19. Ibid.
20. Cf. Chapter III, pp. 85-94
21. Supra, Chapter V, p. 169
22. Supra, Chapter III, p. 87
23. Ibid.
24. Supra, Chapter III, pp. 97-99
25. Ibid.
26. Supra, Chapter II I , pp. 73-74
27. Supra, Chapter IV, pp. 124-125
28. Supra, Chapter III , pp. 96-97

CHAPTER VI

FACTORS INFLUENCING DELAY, REJECTION, AND DISCONTINUANCE

Rogers and Shoemaker define the innovation-decision process as "the mental process through which an individual passes from first knowledge of an innovation to a decision to adopt or reject and to confirmation of this decision."¹ The time required for the process and the ultimate decision to adopt or not adopt a new practice varies for different innovations and with different individuals.

In nursing, the decision to adopt or reject a change in nursing practice often involves a number of people and the innovation must be viewed in the light of the particular situation in each hospital. In analyzing the factors influencing delay in the adoption process, rejection of innovations, or their discontinuance following adoption, it is necessary then, to consider both the individuals involved and the nature of the innovation.

The analysis reported on in this chapter deals with four aspects of the adoption process investigated during the course of the study:

(1) the progress towards adoption and the innovation-response state of the participants for the new practices; (2) the pattern of adoption for each of the nine innovations; (3) the stated reasons for adoption, delay, rejection, and discontinuance of the innovations; and (4) the individuals involved in making the decision to adopt the various practices.

I. PROGRESS TOWARDS ADOPTION AND INNOVATION RESPONSE STATE

Information about the innovations included in the study had been available in the province for a number of years and all of the practices had been used in at least one hospital for a minimum of six years prior to the study. Still, a large number of participants reported being unaware of many of them. On the average, each hospital had adopted 3.4 of the nine new practices and was unaware of 1.5.

Table XXVII shows the increasing progress towards adoption from the delayed adopters to the innovator-early adopter group. Perhaps the most significant figure in the table is the high percentage of participants in the delayed adopter category who were not aware of new practices. Forty per cent of participants in this category who were unaware of the innovations included in this study is considerably higher than the percentage in any other adopter category.

TABLE XXVII
 FREQUENCY AND PERCENTAGE OF PARTICIPANTS
 AT EACH STAGE OF THE ADOPTION PROCESS
 FOR ALL INNOVATIONS, BY ADOPTER CATEGORY

Adopter Category	Early Adopter Innovator	Early Majority	Late Majority	Delayed Adopter	Total
Stage Reached					
Not Aware	3 3%	27 10%	52 20%	47 40%	129 17%
Awareness	4 3%	22 8%	30 12%	14 12%	70 9%
Interest	2 2%	5 2%	10 4%	1 1%	18 2%
Evaluation	12 10%	32 12%	27 10%	11 9%	82 11%
Trial	35 30%	62 23%	61 23%	16 14%	174 23%
Adoption	61 52%	122 45%	81 31%	28 24%	292 38%
TOTALS	117 100%	270 100%	261 100%	117 100%	765 100%

The frequency and percentage of respondents in each innovation response state, that is, adoption, continuing with the adoption process, rejection, discontinuance, and not aware, for all innovations is shown in Table XXVIII.

There is again, as one would expect, a decreasing number of adoptions as the table proceeds from the innovator-early adopters to the delayed adopters, and also a decreasing percentage in the continuing state. The high proportion of delayed adopters who were not aware of new practices is evident, as indicated also in Table XXVII. The one point of difference which shows up in this table is the greater proportion of delayed adopters who had rejected innovations.

Detailed tables of frequency and percentage of respondents in each response state for each innovation, and frequency and percentage distribution of respondents who had adopted, rejected, discontinued, or were unaware of each innovation are shown in Table XXIX.

Five of the innovations had been adopted by more than forty per cent of the hospitals included in the study. These innovations were, in order of number of adoptions, (1) sheepskin pelts; (2) the 'closed glove technique'; (3) open visiting; (4) disposable syringes; and (5) elimination of the 6 a.m. temperature routine.

The practices with the least number of adoptions included two

TABLE XXVIII

FREQUENCY AND PERCENTAGE OF PARTICIPANTS
IN EACH RESPONSE STATE FOR ALL INNOVATIONS, BY
ADOPTER CATEGORY

Adopter Category	Early Adopter Innovator	Early Majority	Late Majority	Delayed Adopter	Total
Stage Reached					
Not Aware	3 3%	27 10%	52 20%	47 40%	129 17%
Adoption	59 50%	119 44%	80 31%	27 23%	285 37%
Continuing	43 37%	104 39%	107 41%	25 21%	279 36%
Rejection	10 8%	17 6%	21 8%	17 15%	65 9%
Discontinuance	2 2%	3 1%	1 -	1 1%	7 1%
Totals	117 100%	270 100%	261 100%	117 100%	765 100%

TABLE XXIX

FREQUENCY AND PERCENTAGE OF PARTICIPANTS IN EACH
RESPONSE STATE FOR ALL INNOVATIONS

Response State	Adoption	Continuing	Rejection	Discontinued	Not Aware	Total
Innovation						
Australian Lift	10 12%	24 28%	2 2%	-	49 58%	85 100%
Boxing Glove Mitt Restraints	13 15%	36 42%	2 2%	-	34 40%	85 100% *
'Closed Glove' Technique	41 48%	17 20%	7 8%	2 2%	18 21%	85 100% *
Sheepskin Pelts	65 76%	10 12%	6 7%	3 4%	1 1%	85 100%
Open Visiting	46 54%	24 28%	12 14%	2 2%	1 1%	85 100% *
Elimination of 6 a.m. Temperatures	38 45%	27 32%	12 14%	0	8 9%	85 100%
Elimination of Draw- sheets	15 18%	61 72%	-	-	9 11%	85 100% *

TABLE XXIX (Continued)

Response State	Adoption	Continuing	Rejection	Discontinued	Not Aware	Total
Innovation						
Colored Dresses with Children	17 20%	40 47%	19 22%	-	9 11%	85 100%
Disposable Syringes	40 47%	40 47%	5 6%	-	-	85 100%
TOTAL	285 37%	279 36%	65 8%	7 1%	129 17%	765 100% *

*

Percentage figures have been rounded off to the nearest whole number and, therefore, do not total exactly 100%.

techniques, the Australian Lift and the boxing glove mitt restraints, and two routines, the elimination of drawsheets and the use of colored dresses for working with children. There were very few rejections of any of the new practices except in the case of the use of colored dresses when working with children. This innovation, up to the time the study was undertaken, had had more rejections (nineteen) than adoptions (seventeen). The total number of rejections for all practices was sixty-five, which represents eight per cent of the total possible adoptions. Twelve hospitals had rejected open visiting and another twelve, the elimination of the 6 a.m. temperature routine. The 'closed glove' technique was rejected by seven hospitals, the sheepskin pelts by six, and the disposable syringes by five. Two rejections of the 'Australian Lift' and two rejections of the disposable syringes accounted for the remainder of the sixty-five rejections.

There were even fewer discontinuances of new practices following their adoption. The total number of discontinuances was seven, which is two per cent of the total number of adoptions. Three hospitals had discontinued use of the sheepskin pelts. Two had discontinued the 'closed glove' technique, and two had curtailed visiting hours subsequent to earlier adoption of open visiting.

II. THE PATTERN OF ADOPTIONS

As discussed in Chapter II, numerous studies have indicated

that there is a definite and predictable pattern to the diffusion of innovations in any social system.²

In addition to collecting data from the Directors of Nursing on the stage in the innovation-decision process reached for each innovation, those Directors, who had adopted, were asked for the date the practice was first used on a full scale in their hospital. From this information, it was possible to tabulate the number of adoptions per year on both a cumulative and non-cumulative basis. Cumulative adoptions were then plotted on a graph to determine if there was a discernible pattern.

The graphs of cumulative adoptions and tables showing number of adoptions per year, together with the number of participants in each stage of the decision-making process prior to adoption for each innovation are shown on the following pages in Figures 44 through 52 and Tables XXX through XXXVIII.

It is evident from the graphs that the adoptions take on the typical 'S'-shaped curve when plotted on a cumulative basis.³ There is a marked difference in the sharpness of the curves indicating a more rapid rate of adoption of some innovations than others. The most rapid diffusion appears to have taken place in the case of the 'closed glove' technique, the sheepskin pelts for skin care, open visiting hours and the use of disposable syringes. Elimination of the 6 a.m. temperature routine had a very slow early diffusion period but the rate of adoptions

TABLE XXX

AUSTRALIAN LIFT : ADOPTIONS

No. of Participants in Stages Prior to Adoption		Year	No. Adopting per Year	Cumulative Adoptions
Trial	10	1958 or prior	-	-
Evaluation	1	1959	-	-
Interest	2	1960	-	-
Awareness	13	1961	1	1
Not Aware	49	1962	-	1
		1963	-	1
		1964	-	1
		1965	4	5
		1966	3	8
		1967	-	8
		1968	2	10

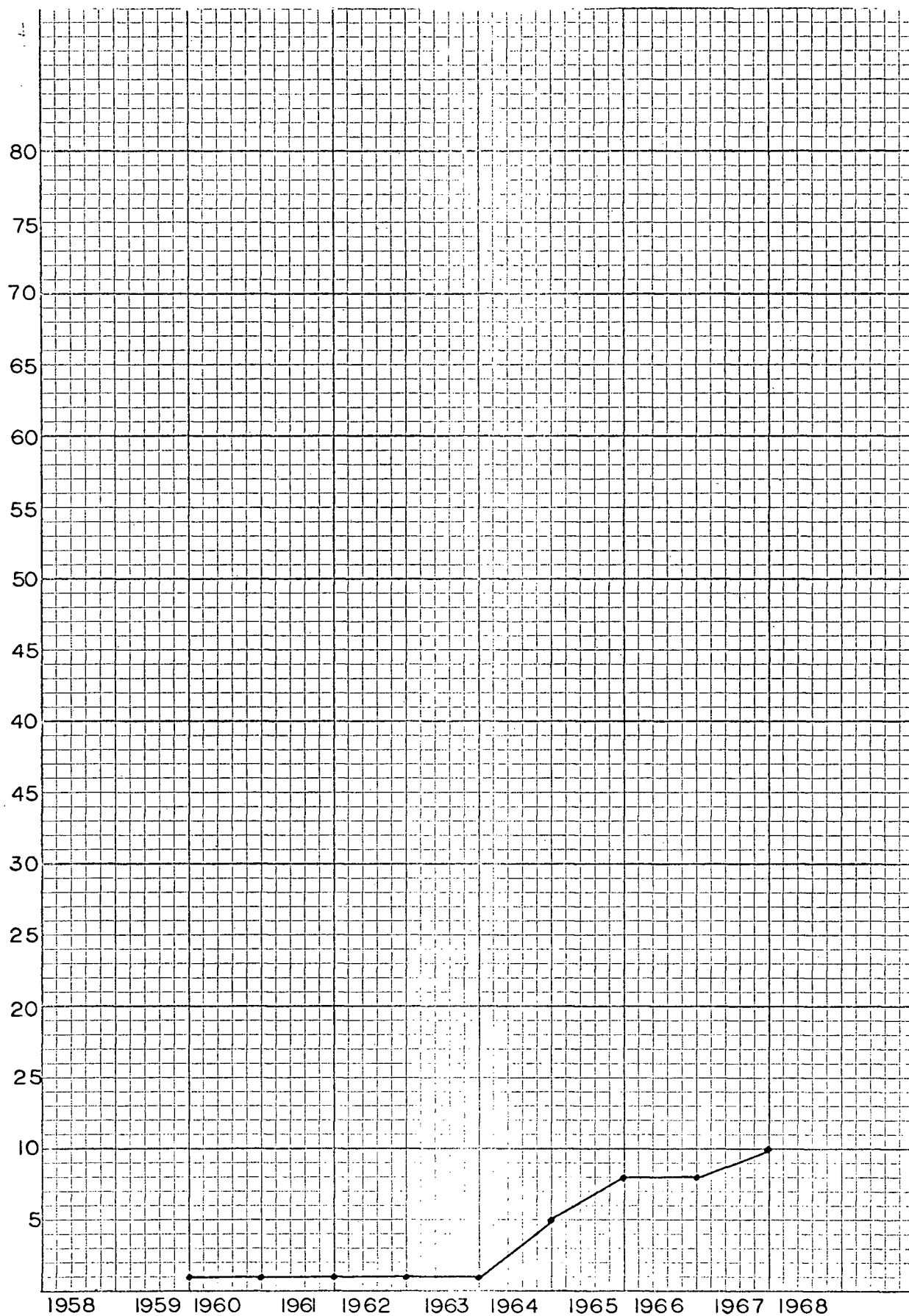


FIGURE 44: AUSTRALIAN LIFT;
CUMULATIVE ADOPTIONS

TABLE XXXI

BOXING GLOVE MITT RESTRAINTS
: ADOPTIONS

No. of Participants in Stages Prior to Adoption		Year	No. Adopting per Year	Cumulative Adoptions
Trial	22	1958 or prior	5	5
Evaluation	1	1959	-	5
Interest	-	1960	-	5
Awareness	15	1961	-	5
Not Aware	34	1962	1	6
		1963	2	8
		1964	-	8
		1965	1	9
		1966	1	10
		1967	2	12
		1968	1	13

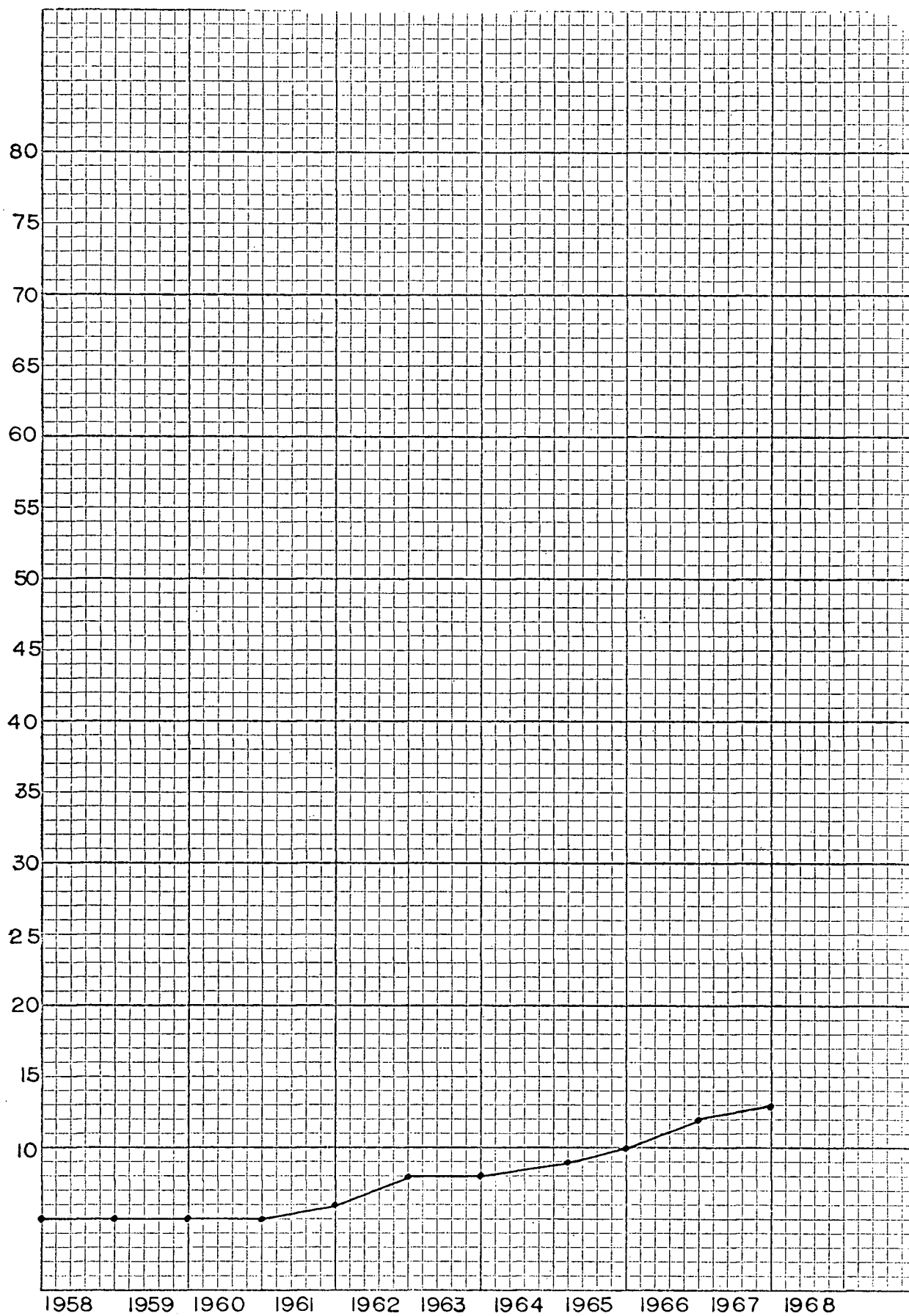


FIGURE 45: BOXING GLOVE MITT RESTRAINTS:
CUMULATIVE ADOPTIONS

TABLE XXXII

'CLOSED GLOVE' TECHNIQUE

: ADOPTIONS

No. of Participants in Stages Prior to Adoption		Year	No. Adopting per Year	Cumulative Adoptions
Trial	13	1958 or prior	-	-
Evaluation	3	1959	-	-
Interest	1	1960	1	1
Awareness	7	1961	-	1
Not Aware	18	1962	5	6
		1963	1	7
		1964	4	11
		1965	9	20
		1966	11	31
		1967	5	36
		1968	7	43

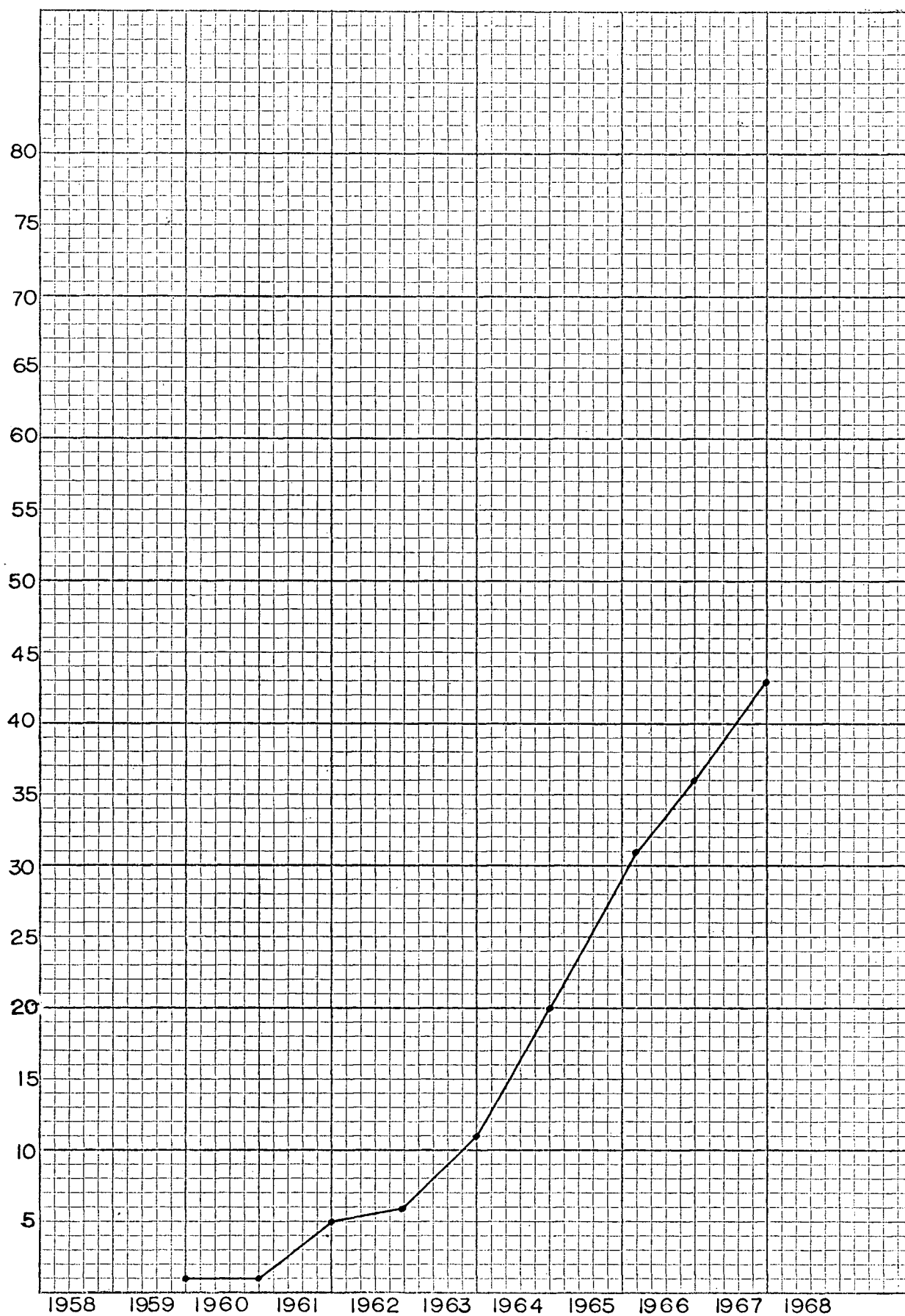


FIGURE 46: 'CLOSED GLOVE' TECHNIQUE:
CUMULATIVE ADOPTIONS

TABLE XXXIII SHEEPSKIN PELTS : ADOPTIONS

No. of Participants in Stages Prior to Adoption		Year	No. Adopting per Year	Cumulative Adoptions
Trial	10	1958 or prior	2	2
Evaluation	4	1959	-	2
Interest	-	1960	1	3
Awareness	2	1961	1	4
Not Aware	1	1962	2	6
		1963	14	20
		1964	11	31
		1965	9	40
		1966	14	54
		1967	6	60
		1968	8	68

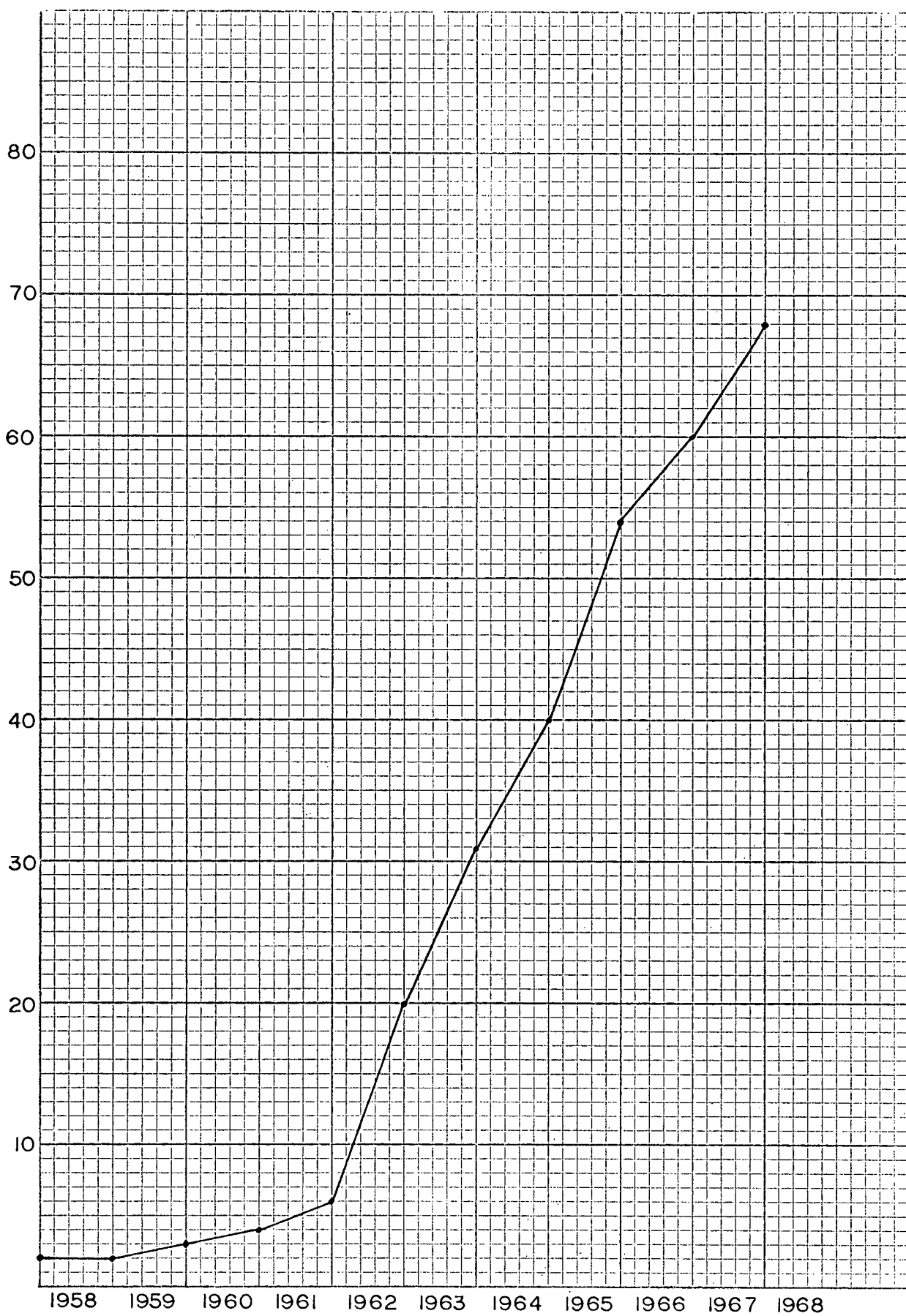


FIGURE 47: SHEEPSKIN PELTS:
CUMULATIVE ADOPTIONS

TABLE XXXIV OPEN VISITING : ADOPTIONS

No. of Participants in Stages Prior to Adoption		Year	No. Adopting per Year	Cumulative Adoptions
Trial	12	1958 or prior	3	3
Evaluation	20	1959	2	5
Interest	2	1960	3	8
Awareness	2	1961	3	11
Not Aware	1	1962	1	12
		1963	6	18
		1964	6	24
		1965	6	30
		1966	8	38
		1967	4	42
		1968	6	48

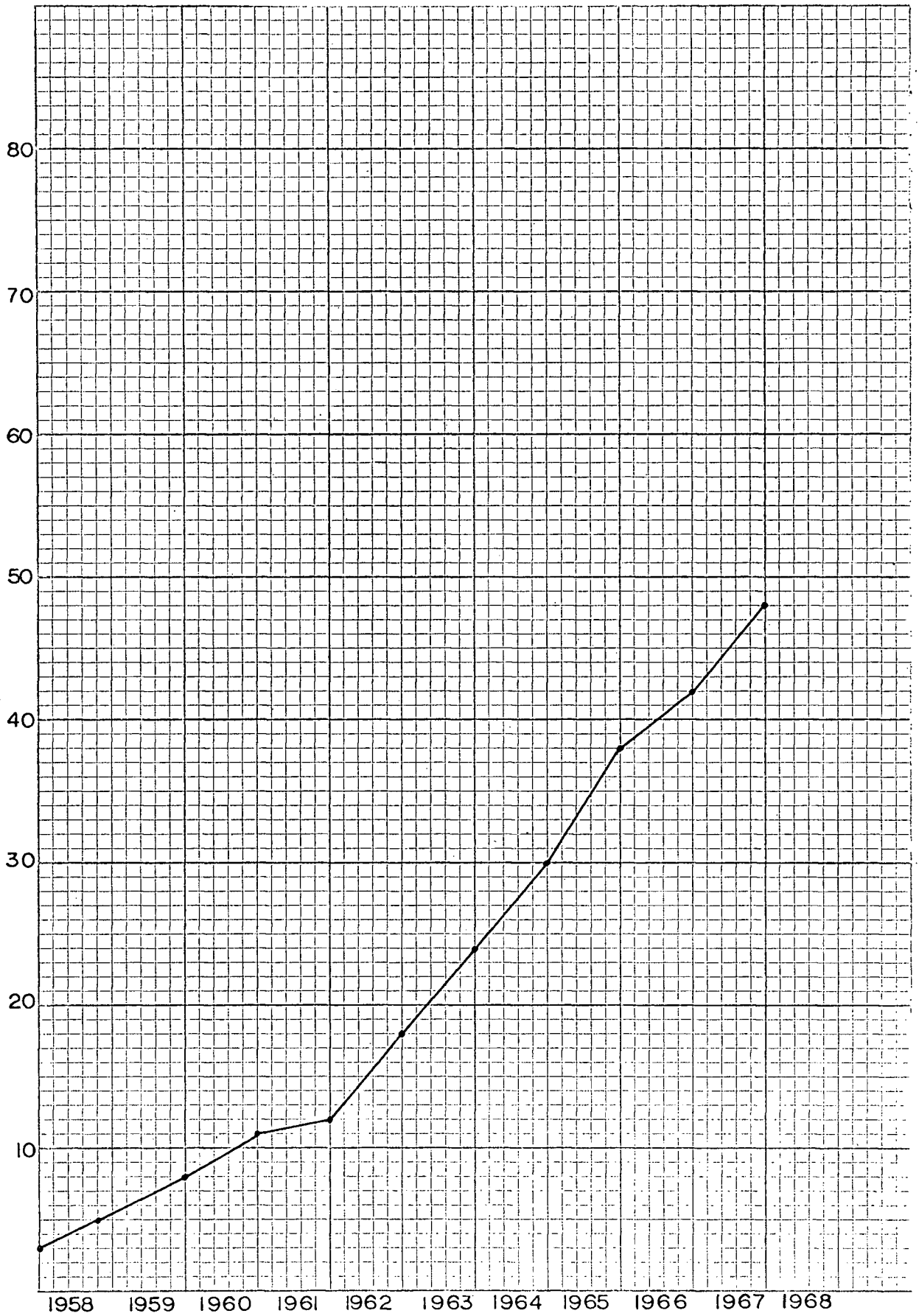


FIGURE 48: OPEN VISITING:
CUMULATIVE ADOPTIONS

TABLE XXXV ELIMINATION OF THE 6 a. m. TEMPERATURE
ROUTINE : ADOPTIONS

No. of Participants in Stages Prior to Adoption		Year	No. Adopting per Year	Cumulative Adoptions
Trial	12	1958 or prior	2	2
Evaluation	14	1959	-	2
Interest	5	1960	1	3
Awareness	7	1961	-	3
Not Aware	8	1962	2	5
		1963	1	6
		1964	9	15
		1965	7	22
		1966	4	26
		1967	5	31
		1968	7	38

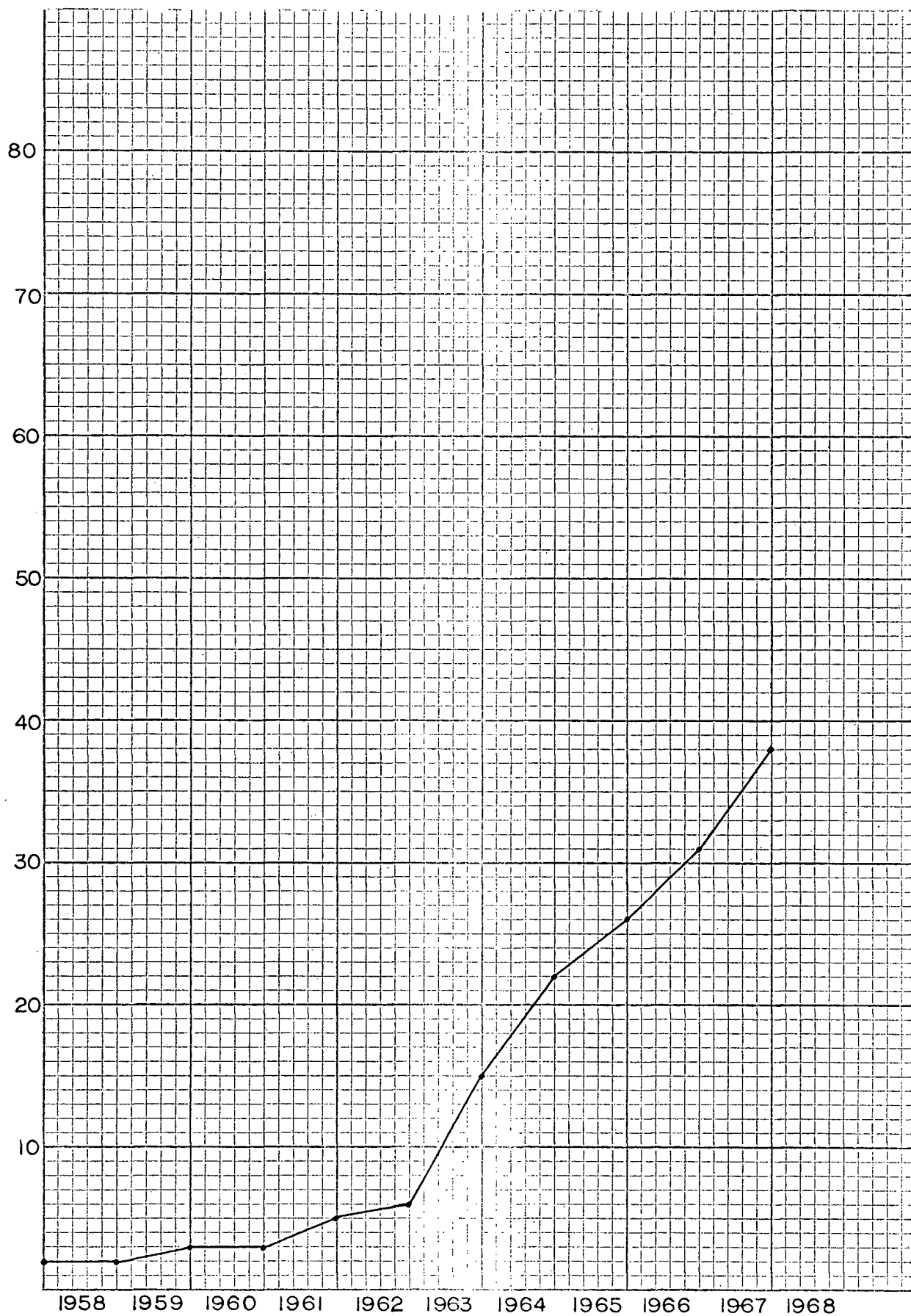


FIGURE 49: ELIMINATION OF 6 A.M. TEMPERATURE ROUTINE :
CUMULATIVE ADOPTIONS

TABLE XXXVI ELIMINATION OF DRAWSHEETS
: ADOPTIONS

No. of Participants in Stages Prior to Adoption		Year	No. Adopting per Year	Cumulative Adoptions
Trial	54	1958 or prior	1	1
Evaluation	2	1959	-	1
Interest	2	1960	-	1
Awareness	3	1961	1	2
Not Aware	9	1962	2	4
		1963	2	6
		1964	-	6
		1965	2	8
		1966	2	10
		1967	3	13
		1968	2	15

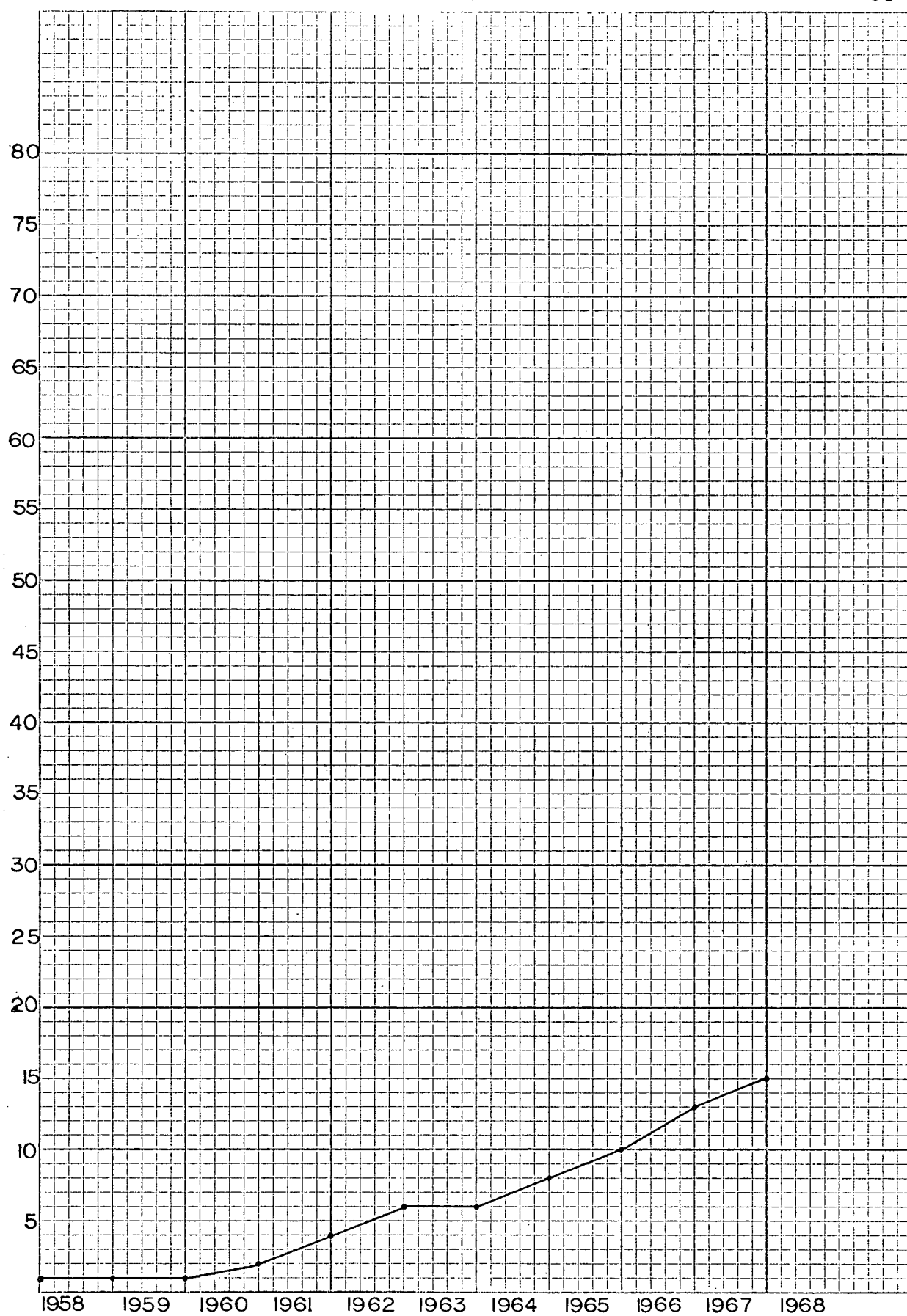


FIGURE 50: ELIMINATION OF DRAW SHEETS :
CUMULATIVE ADOPTIONS

TABLE XXXVII
COLORED DRESSES FOR WORKING WITH
CHILDREN : ADOPTIONS

No. of Participants in Stages Prior to Adoption		Year	No. Adopting per Year	Cumulative Adoptions
Trial	10	1958 or prior	1	1
Evaluation	24	1959	-	1
Interest	5	1960	-	1
Awareness	20	1961	-	1
Not Aware	9	1962	2	3
		1963	2	5
		1964	2	7
		1965	4	11
		1966	4	15
		1967	1	16
		1968	1	17

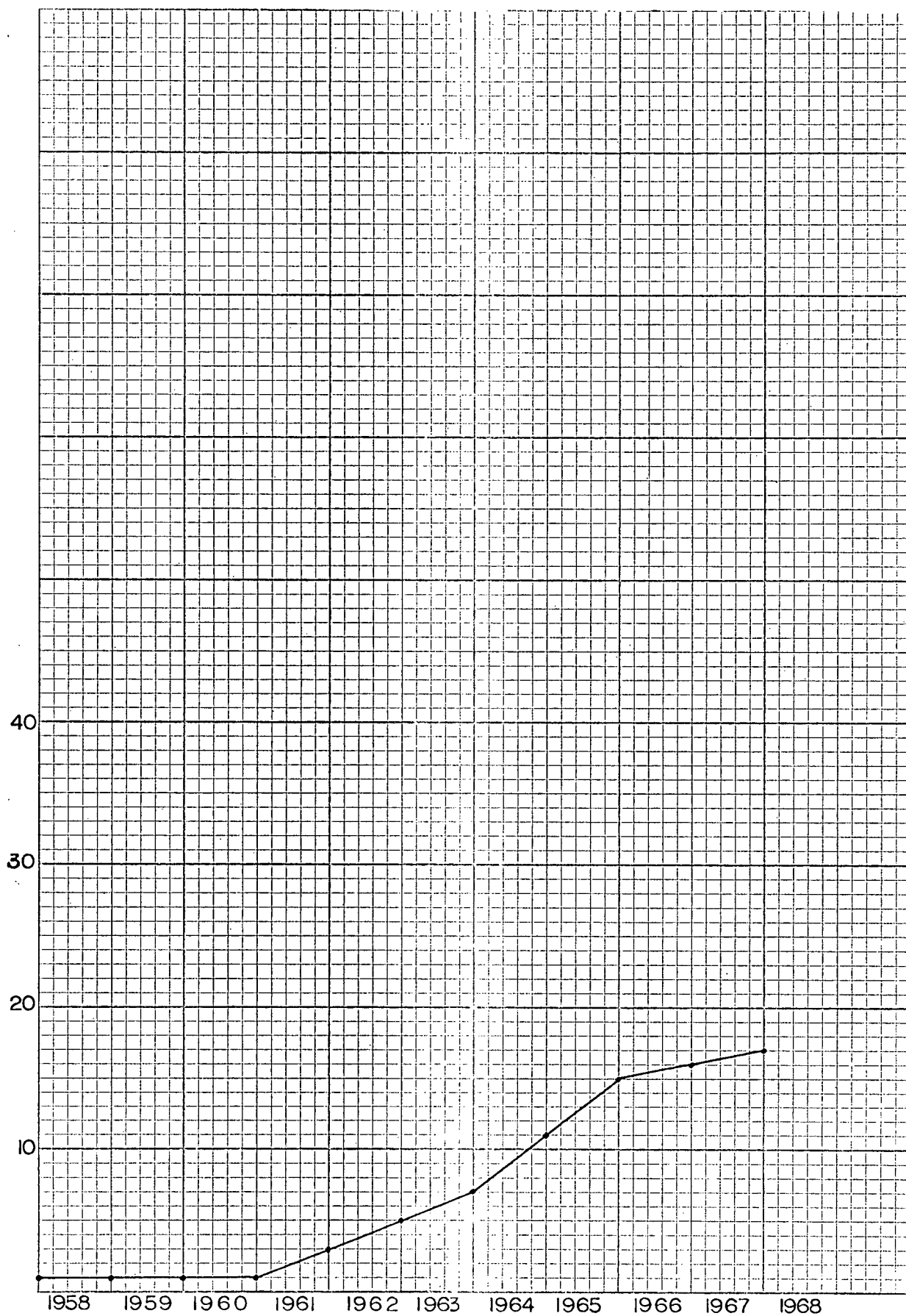


FIGURE 51: COLORED DRESSES IN PEDIATRICS :
CUMULATIVE ADOPTIONS

TABLE XXXVIII DISPOSABLE SYRINGES : ADOPTIONS

No. of Participants in Stages Prior to Adoption		Year	No. Adopting per Year	Cumulative Adoptions
Trial	38	1958 or prior	-	-
Evaluation	7	1959	-	-
Interest	--	1960	-	-
Awareness	-	1961	-	-
Not Aware	-	1962	2	2
		1963	2	4
		1964	6	10
		1965	8	18
		1966	14	32
		1967	2	34
		1968	6	40

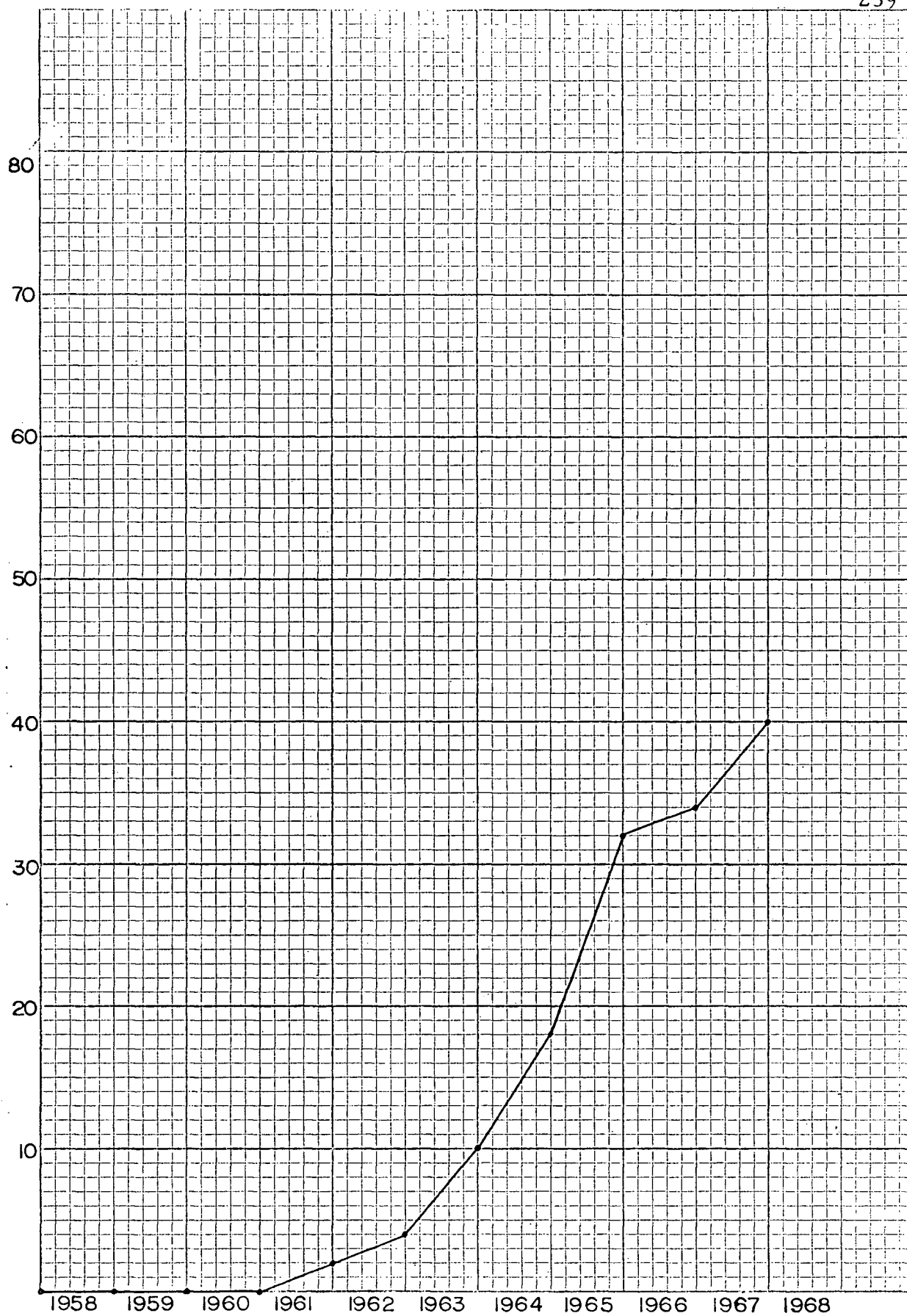


FIGURE 52: DISPOSABLE SYRINGES:
CUMULATIVE ADOPTIONS

has accelerated rapidly in the past five years.

Some of the other practices, such as the boxing glove mitt restraints, the elimination of drawsheets, and the use of colored dresses when working with children show a much slower rate of adoption, although all of these have been in use in some hospitals in the province for more than ten years.

The Australian Lift technique is a more recent innovation and its graph of adoptions illustrates the very slow early diffusion period of an innovation.

It is evident from the tables and graphs that the diffusion of any single innovation through the network of public general hospitals in the province extends over a period of several years. In the case of the sheepskin pelts, which have had the greatest number of adoptions of any of the innovations studied, the process has taken ten years for these to be used in eighty per cent of the hospitals participating in the study. This technique has probably reached its saturation point and nine participants reported that it had been rejected or discontinued in favor of newer practices.

Even in the case of the innovations which have had the most rapid rate of adoption, as for example, the 'closed glove' technique, the process is slow. It had been six years since this was first introduced in the province and only fifty-one per cent of the respondents

had adopted it by June, 1968. At this time, the hospital in which it was first used reported that the practice was now being discontinued because of improved techniques, while eighteen respondents (21 per cent) reported that they had still not heard of it.

III. REASONS FOR ADOPTION, DELAY, DISCONTINUANCE AND REJECTION

Some of the innovations were adopted relatively quickly, some took longer to diffuse through the hospitals, and others were rejected or discontinued subsequent to adoption. The participants were asked to state the reasons for adoption (if the practice had been put into use), the reasons for a delay of more than two years in the adoption process, and the reasons for rejection or discontinuance of the practice.

Reasons for Adoption

The reasons stated by the Directors of Nursing for adoption of each of the nine new practices are shown in Table XXXIX. These reasons give an indication of the dominant characteristics of the innovation as perceived by the participants.

From Table 39 it can be seen that the principal reason for adopting an innovation was either safety of the patient, that is, the innovation was considered a better or 'safer' technique than that

TABLE XXXIX
STATED REASONS FOR ADOPTION OF INNOVATIONS

Innovation	No. * of Adoptions	Safety of Patients	Comfort of Patients	Time Saving	Labor Saving	Money Saving	Other
Australian Lift	10	6		1	3		
Boxing Glove Mitt Restraints	13	13	1	1			
'Closed Glove' Technique	43	13					
Sheepskin Pelts	68	68	26				
Open Visiting	48		45	2			1
Elimination of 6 a. m. Temperatures	38	2	35	4	1		
Elimination of Drawsheets	15		15				
Use of Colored Dresses with children	17		17		2		
Disposable Syringes	4	35	1	35	37	2	

* Number of reasons given for adopting some innovations is greater than the number of adoptions.
The reason for this is that some participants gave more than one reason for adopting some items.

previously used, or comfort of the patient. One item, the disposable syringes, was regarded as having time and labor-saving advantages as well as safety features. Thus, the innovations could be divided into two groups on the basis of perceived characteristics. The first group contained the items considered principally safety measures, and the second, the practices adopted mainly for the comfort of the patient. For analysis of data, the disposable syringes, because of their large safety component, were included with the group of safety measures.

This division of the innovations on the basis of perceived characteristics is consistent with the original categorization of new practices. The techniques were all considered to be primarily safety items, while the routines were adopted more for the comfort of the patient than for any other reason.

Reasons for Delay, Rejection, or Discontinuance

In questioning the nurses regarding a delay in the adoption process for the various innovations, the fallability of human memory had to be taken into account. While the participants could remember, with what appeared to be a fair degree of accuracy, when a new practice had been introduced in their hospital, the date when they had first heard of it was often vague. The source was remembered, but not the exact date. For this reason, the validity of data on the exact length of time spent in the adoption process is questionable and, therefore, not reported on here.

It was evident, however, that some innovations were adopted much more quickly than others as, for example, the 'closed glove' technique, which the majority of participants indicated had been put into use as soon as they, or their operating room nurses, had heard about it. When the participants indicated that a fair length of time had elapsed between awareness and the stage reached in the adoption process, data on the reasons why the innovation had not been put into effect earlier, were gathered.

The reasons for delay, rejection, or discontinuance were categorized under the following headings: (1) relative advantage, (2) compatability with existing practices, (3) complexity, (4) divisibility, (5) communicability, (6) situational factors, and (7) over-ruling of a nursing decision. The reasons were analyzed in terms of the dominant characteristics of the innovation perceived by the nurses as derived from the principal reason for adoption, and also in relation to adopter category.

By perceived characteristics of the innovations

Table XL shows the stated reasons for adoption vis-a-vis the reasons given for delay, rejection, or discontinuance for all innovations. It is evident that a close relationship exists between the reasons given by some participants for adopting an item and the reasons given by others for delay in the adoption process, rejection of an innovation,

TABLE XL

STATED REASONS FOR ADOPTION, DELAY, REJECTION OR DISCONTINUANCE
ALL INNOVATIONS

Reason stated for*		Adoption		Delay		Rejection	Discon- tinuance
Australian Lift		Safety of Patient	6	Communicability	14	-	-
Total adoptions	10	Labor-saving	3	Situational	4	2	-
12%		Time-saving	1	Relative advan.	2	-	-
Mitt Restraints		Safety of Patient	13	Relative Advan.	15	-	-
Total adoptions	13	Comfort of "	1	Situational	6	-	-
15%		Time-saving	1	Communicability	5	2	-
Glove Technique		Safety of Patient	43	Relative Advan.	4	2	1
Total adoptions	43			Communicability	6	2	1
51%				Situational	-	2	-
				Over-ruling	-	1	-
Sheepskin Pelts		Safety of Patient	68	Relative Advan.	31	5	3
Total adoptions	68	Comfort of "	26	Situational	6	1	-
80%				Complexity	5	-	-
Disposable Syringes		Safety of Patient	35	Relative Advan.	57	4	-
Total Adoptions	40	Time-saving	35	Situational	3	1	-
47%		Labor-saving	37				
		Comfort of					
		Patient	1				
		Money-saving	2				

TABLE XL (Continued)

Reasons for:

Reason stated for*		Adoption		Delay		Rejection	Discon- tinuance
Open Visiting		Comfort of Patient	45	Compatability	15	4	2
Total adoptions	48	Time-saving	2	Situational	10	2	-
56%		Convenience	1	Relative Adv.	8	2	-
				Complexity	4	-	-
Elimination		Comfort of Patient	35	Compatability	10	3	-
6 a.m. temps		Time-saving	4	Over-ruling	8	8	-
Total adoptions	38	Labor-saving	1	Relative Adv.	2	-	-
45%		Safety of Patient	2	Situational	1	1	-
Elimination of		Comfort of Patient	15	Compatability	30	-	-
Drawsheets				Relative Adv.	12	-	-
Total adoptions	15			Situational	8	-	-
18%							
Colored Dresses		Comfort of Patient	17	Situational	24	12	-
with Children		Labor-saving	2	Compatability	7	-	-
Total adoptions	17			Relative Adv.	7	4	-
20%				Complexity	4	2	-
				Over-ruling	1	1	-

* Reasons stated for adoption do not equal total number of adoptions because participants in some instances indicated more than one reason for adopting an item.

or its discontinuance after adoption. Certain attributes of the innovation itself such as its communicability or relative advantage appear to be more important in the case of the techniques.

Compatability with existing practices and situational factors were more important in the case of the routines. Nursing decisions to adopt an innovation were over-ruled more frequently in the case of certain innovations than others.

Communicability was the most frequently given reason for delay, rejection or discontinuance of three of the nursing techniques, the Australian Lift, the Boxing Glove Mitt restraints, and the 'closed glove' technique. Relative advantage was the reason most commonly given in relation to the sheepskin pelts and the disposable syringes. In the case of both of the last two items, costs were given as the major factor to be considered in relative advantage of the innovation, by a number of the participants (eight in the case of the sheepskin pelts, thirty-eight for the disposable syringes).

With the open visiting, the principal reason given for delay, rejection, or discontinuance was compatability with existing routines. Situational factors were next highest on the list of reasons. The biggest factor in rejection of the elimination of the 6 a. m. temperature routine was over-ruling of a nursing decision to adopt it. Compatability with existing routines was the second most important reason.

Reasons by Adopter Category

Table XLI shows the frequency and percentage of reasons for delay, rejection, or discontinuance of innovations, by adopter category. Overall, the characteristics of the innovation, such as its relative advantage over other practices, its compatability with existing routines, its communicability, or complexity, outweigh all the other reasons given. This was also evident in Table XL. The late majority group and the delayed adopters tended to stress situational factors more than the earlier adopters did. The situation was usually stated in terms of the size of the hospital, type of cases admitted, or nature of the community in which the hospital was located.

Reasons by Stages in the Adoption Process

One important factor to consider is the stage in the adoption process when rejection occurs. Is the new practice given sufficient consideration before the idea is rejected, or it is dismissed before being investigated fully? Table XLII lists the number and percentage of rejections which occurred at each stage in the adoption process, by adopter category.

Although there were very few rejections of any of the practices in this study, it appears that, in most instances, the innovation had been given careful consideration before being dismissed as unsuitable for use in a hospital. The majority of rejections, fifty of the total

TABLE XLI
REASONS GIVEN BY PARTICIPANTS FOR DELAY,
REJECTION AND DISCONTINUANCE OF INNOVATIONS,
BY ADOPTER CATEGORY

Reason Stated	Adopter Category				Total
	Early Adopter Innovator	Early Majority	Late Majority	Delayed Adopters	
Relative Advantage	24 39%	56 43%	59 41%	21 40%	160 41%
Compatability	8 13%	37 28%	21 15%	10 19%	76 20%
Communicability	9 15%	7 5%	11 8%	2 4%	29 7%
Complexity	9 15%	-	3 2%	1 2%	13 3%
Situational Factors	6 10%	24 18%	36 25%	16 30%	82 21%
Over-ruling	5 8%	6 5%	14 10%	3 6%	28 7%
Total	61 100%	130 100%*	144 100%*	53 100%*	388 100%*

* Percentage figures have been rounded off to the nearest whole number and, therefore, do not total exactly 100%

sixty-five (77 percent), had occurred at either the evaluation or trial stages. Among the innovator-early adopter group, there were no rejections at the awareness stage, and only one at the interest stage. The delayed adopters tended to dismiss new practices a little more frequently when they first heard about them, but, even with this group, the majority of rejections, twelve of the total seventeen (72 per cent), occurred during the later stages of the adoption process.

IV. PEOPLE INVOLVED IN DECISION-MAKING

If an innovation had been put into use in a hospital, the participants were asked who had been involved in making the decision to adopt it. In a number of instances, the new practice had been introduced prior to the appointment of the current Director of Nursing, and this information was not available. These instances, however, constituted a very small percentage of the cases. The data were analyzed on the basis of number and percentage of times each individual, or group of individuals, was involved in the decision to adopt the innovations.

Table XLIII shows the frequency and percentage of times the Director of Nursing, the nursing staff, the medical staff, the administrator, and the Hospital Board were involved in making the decision to adopt each of the nine new practices. In no instance were individuals outside of the hospital reported as being involved in making

TABLE XLII
REJECTION OF INNOVATIONS BY PARTICIPANTS
AT EACH STAGE IN THE ADOPTION PROCESS,
BY ADOPTER CATEGORY

Stage in the Adoption Process	Adopter Category				Total
	Early Adopter Innovator	Early Majority	Late Majority	Delayed Adopters	
Awareness	-	4 24%	5 24%	5 29%	14 22%
Interest	1 10%	-	-	-	1 2%
Evaluation	5 50%	10 59%	10 48%	8 47%	33 51%
Trial	4 40%	3 18%	6 30%	4 24%	17 26%
Total	10 100%	17 100%*	21 100%*	17 100%	65 100%*

* Percentage figures have been rounded off to the nearest whole number and, therefore, do not total exactly 100%

TABLE XLIII

FREQUENCY AND PERCENTAGE DISTRIBUTION
OF PEOPLE INVOLVED IN THE DECISION TO
ADOPT INNOVATIONS

Innovation	Personnel				
	Director of Nursing*	Nursing Staff	Medical Staff	Adminis- trator	Hospital Board
Australian Lift	8 80%	10 100%			
Boxing Glove Mitts	13 100%	13 100%			
'Closed Glove' Technique	32** 86%	37 100%	6 16%		
Sheepskin Pelts	59** 100%	52 88%	7 12%	21 35%	
Open Visiting	42** 100%	39 93%	26 62%	30 71%	25 60%
Elimination of 6 a. m. Temperatures	33** 100%	27 82%	20 61%	5 15%	2 6%
Elimination of Drawsheets	15 100%	15 100%	1 9%	1 9%	
Colored Dress with Children	17 100%	15 88%	1 6%	4 24%	
Disposable Syringes	40 100%	37 93%	13 33%	34 85%	2 5%
Totals	259 98%	245 92%	74 28%	95 36%	29 11%

TABLE XLIII (Continued)

* In 13 instances the Directors of Nursing indicated that they were solely responsible for introducing new practices. These were 'closed glove' technique (2) sheepskin pelts (2) elimination of 6 a. m. temperatures (1) colored dresses (1) and disposable syringes (2).

** Missing data.

the final decision to adopt an innovation.

There were very few instances, only thirteen in all, in which the Director of Nursing indicated that she, alone, was responsible for making the decision to adopt a new practice. On the other hand, there were very few cases (2 per cent) in which she was not involved. Of the seven instances in which the participants said the decision to adopt an innovation had been made solely by the nursing staff, two were adoption of the Australian Lift as a technique for moving patients, and the other five involved the use of the 'closed glove' technique in the operating room.

The nursing staff were reported as being consulted in the decision to accept new practices in ninety-two per cent of the cases. The medical staff were brought into decisions regarding open visiting hours and the elimination of the early morning temperature routine (61 per cent) more than at any other time, although they were also consulted in regard to the use of the disposable syringes (33 per cent) the 'closed glove' technique (16 per cent) and the use of sheepskin pelts (12 per cent).

The administrator was involved in the decision to adopt disposable syringes in eighty-five per cent of the cases, and was also important in the decision to introduce open visiting (71 per cent of the cases). The sheepskin pelts, which involve costs, also brought the

administrator into the decision-making process in regard to their use, thirty-five percent of the time. The administrator was again consulted in some of the decisions regarding the use of colored dresses for working with children (24 per cent of the cases) and in a few instances in regard to elimination of the 6 a. m. temperature.

The Hospital Board became involved in the decision-making process regarding open visiting in sixty per cent of the cases. This is to be expected since the visiting hours of a hospital affect community relations and may, in fact, involve a change in hospital policy. The Board was also consulted in two instances (6 per cent) involving the elimination of the 6 a. m. temperature routine.

CHAPTER VI

FOOTNOTES

1. Everett M. Rogers and F. Floyd Shoemaker, Diffusion of Innovations: a cross-cultural approach. (New York, Free Press of Glencoe, in print), p. 34.

2. Supra, Chapter II, pp. 48-50

3. Ibid.

CHAPTER VII

SUMMARY AND IMPLICATIONS

It has been the purpose of this study to investigate the diffusion of innovations in nursing practice in a selected segment of Canadian hospitals.

Literature on continuing education for members of the health professions has stressed that understanding of the process of diffusion is one of the most important factors to be considered in the development of effective educational programs. Of prime importance is the process by which new information is transmitted and the factors which cause some ideas to be accepted in practice and others to be rejected.

Studies on the diffusion of innovations have been done in such diverse fields as agriculture, education, marketing, and medicine. A review of the literature suggests that the theoretical framework that has evolved regarding the transmission of information about new knowledge and technology in other disciplines may be equally applicable in nursing. Of particular relevance are theories concerning the flow of information

through a social system, elements in the diffusion process, and the nature of the individual innovation-decision process.

Three related aspects of diffusion were investigated in the course of this study: the flow of information about new nursing practices through a network of hospitals; factors related to adoption; and factors influencing delay in the adoption process, rejection of innovations, or their discontinuance following adoption.

I. METHOD AND PROCEDURE

The population consisted of 85 hospitals in the Province of British Columbia. These constituted all of the public hospitals which provide generalized acute care services and included the majority of hospitals in the province. The participants were the Directors of Nursing of the hospitals.

An analytical survey method was used to investigate the diffusion of nine innovations in nursing practice in the hospitals under study. The unit of analysis was the hospital, and a structured interview technique was employed to gather data from the Director of Nursing of each hospital.

For analysis of data, the hospitals were divided into four groups, according to size: (1) Type A, consisting of hospitals with a rated bed capacity of 201 or over; (2) Type B, of 75 to 200 beds;

(3) Type C, of 30 to 74 beds; and (4) Type D, of under 30 beds.

Data were gathered on the sources of information used by the Directors of Nursing at each stage of the adoption process, and on the specific sources used for information about the innovations included in the interview schedule. The sources were categorized as: (1) impersonal sources, (2) attendance at continuing education programs, (3) attendance at professional meetings, and (4) personal sources.

Frequency and percentage distributions were calculated to assess the relative importance of various sources at different stages in the adoption process, and also the relative use of the four categories of sources. Flow charts were developed to trace the transmission of information about the specific innovations studied and, also, the general pattern of communication between hospitals.

In analyzing factors related to the adoption of innovations, the dependent variable was an adoption score of the hospital computed on the basis of the stage in the adoption process reached by the Director of Nursing for each of the nine new practices. The scores were rank-ordered and then the hospitals were divided into four adopter categories: innovator-early adopter, early majority, late majority, and delayed adopters.

The factors influencing delay in the adoption process, rejection of new practices, or their discontinuance following adoption were analyzed by (1) assessing the stage in the adoption process reached by the participants and their innovation-response state for all innovations; (2) determining the pattern of adoption for each new practice; and (3) relating the stated reasons for delay, rejection, or discontinuance to the participants' perception of the innovations, as evidenced by their stated reasons for adopting the practice. Finally, the individuals involved in making the decision to adopt innovations were identified.

II. THE FINDINGS

The results of this study are consistent with the findings of research in other disciplines on the diffusion of innovations. They suggest that nurses are very much like the members of any other group with regard to the way they transmit information about new ideas and practices. There appears to be a definite process involved in information-seeking by the Directors of Nursing of the hospitals included in the study, and identifiable channels of communication used by nurses. Specific characteristics of the population tended to be related to earlier and later adoption, and a discernible pattern was evident in the adoption of innovations by members of the particular social system under study. Factors influencing delay in the adoption process, rejection or discontinuance of innovations were related both

to the nature of the practice, as perceived by the nurses, and the characteristics of individuals involved in making the decision to adopt or not adopt the new practices.

The findings will be reported on under three headings:

(1) the flow of information through the hospitals; (2) factors related to adoption; and (3) factors influencing delay, rejection, and discontinuance.

The Flow of Information Through the Hospitals

General Sources of Information

The Directors of Nursing of the hospitals in this study showed a marked similarity in the sources of information they used at various stages in the adoption process. The principal sources reported as used, in order of frequency named at all stages, were (1) the nursing staff within the hospital; (2) physicians; (3) other Directors of Nursing; (4) salesmen from the hospital supply houses and drug companies; (5) hospital administrators; (6) professional nursing, medical and hospital journals; (7) literature from commercial firms; (8) attendance at professional meetings; (9) participation in continuing education programs; (10) films; (11) the news bulletin of the provincial nursing association; (12) nursing textbooks; and (13) nursing consultants.

New information may come originally from any one of a

number of sources, as for example: an article in a professional journal; conversation with another Director of Nursing; participation in an institute or workshop; attendance at a professional meeting; the visit of a representative of one of the hospital supply houses or literature sent out by the company; the periodic visit of the provincial government nursing consultant; a patient; a film; or a book.

If the nurse is interested in the idea and wishes to pursue it, she will contact another Director of Nursing to ask her about the new practice, request the salesman to furnish her with further details, or write directly to the company for additional literature.

Once the information has been gathered, the Director then consults with her colleagues within the hospital, the nursing and medical staff, and the administrator, to see if the innovation would be suitable for use in their particular hospital.

When detailed information is required relative to implementation of the innovation, and it involves a piece of equipment, the salesman from the hospital supply house will usually assist by providing a demonstration for the staff. If the innovation involves a change in routines or techniques, a nurse may be sent to another hospital to see the practice in operation. If neither of these two alternatives is feasible, written information may suffice.

In the final stage of decision-making, it is again the staff within the hospital who are consulted. The nursing staff, the physicians, and the administrator were all reported as involved in deciding whether an innovation is to be accepted or rejected. In addition, if the new practice requires a change in hospital policy, or affects community relations, the Hospital Board of Directors must also give their sanction.

Sources used by Nature of the Activity Involved in the Source

With regard to the categories of sources investigated, four findings are significant:

1. Of primary importance is the role of personal communication with colleagues. Other Directors of Nursing were named as the principal outside referents for information and advice on new ideas and practices in nursing, while the staff within the hospital, the nurses, the physicians, and the administrator were the chief consultants when decisions were being made relative to trial or continued use of an innovation. In addition, informal communication with other nurses at professional meetings was reported as a valuable source contributing to knowledge about new ideas in nursing.

2. Continuing education programs are an important initial source of information on new knowledge and technology in nursing. These ranked third in order of all sources named at the awareness stage in the adoption process.

3. The role of the commercial agent, in this case, the salesman from the hospital supply house, was found to be significant in drawing the Director of Nursing's attention to new items, providing additional information at the interest stage, and furnishing technical assistance at the trial stage of adoption.

4. As has been found in other studies, impersonal sources of information were used most frequently in the early stages of the adoption process, decreasing in relative importance as the Director of Nursing proceeded through the stages of innovation-decision. The nursing journals, literature from the hospital supply companies, hospital journals and films were the chief impersonal sources reported by the nurses, with the nursing journals ranking first in order of all sources named at the awareness stage.

Specific Sources of Information Used for the Innovations

With regard to the specific sources of information used for the nine innovations investigated in the course of this study, personal communication through informal channels was reported more frequently than any other source for all of the new practices. The one exception was in the case of commercial products. The salesmen and literature from the hospital supply houses, as well as advertisements in the nursing and hospital journals, were cited as the chief sources of information for these.

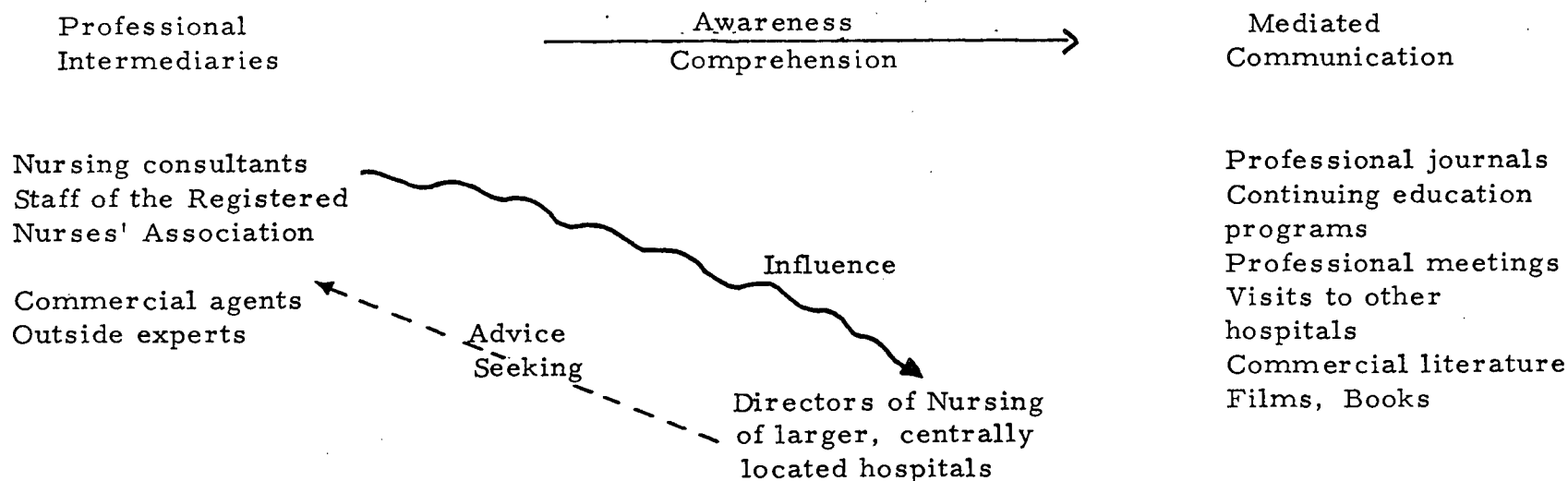
In addition to personal communication, the short, continuing education course was named as an important source of information about the 'closed glove' technique and the 'Australian lift'. Also, a number of the participants reported that they had read journal articles about many of the innovations.

The Pattern of Information Flow

Except in the case of one innovation, (the 'closed glove' technique), there was little direct transfer of information from one hospital to another reported about the nine innovations studied. In tracing the communication links between hospitals, however, it became evident that two cycles of influence are operating within the network of public general hospitals in the province.

The first cycle of influence derives from Vancouver, where the large teaching and research centers are located. The hospitals here, and the university, conduct many studies on new nursing practices and also receive information from sources outside the province. The second cycle of influence operates within a district where some hospitals appear to function as opinion leaders for other hospitals in the area. The opinion leaders are usually the larger, regional center hospitals which have taken the lead in developing educational programs for nurses in the district and are used as referents by the smaller hospitals. Thus, it appears that Trolldahl's 'Two Cycle of Influence' theory¹ is as applicable

The First Cycle of Influence



The Second Cycle of Influence

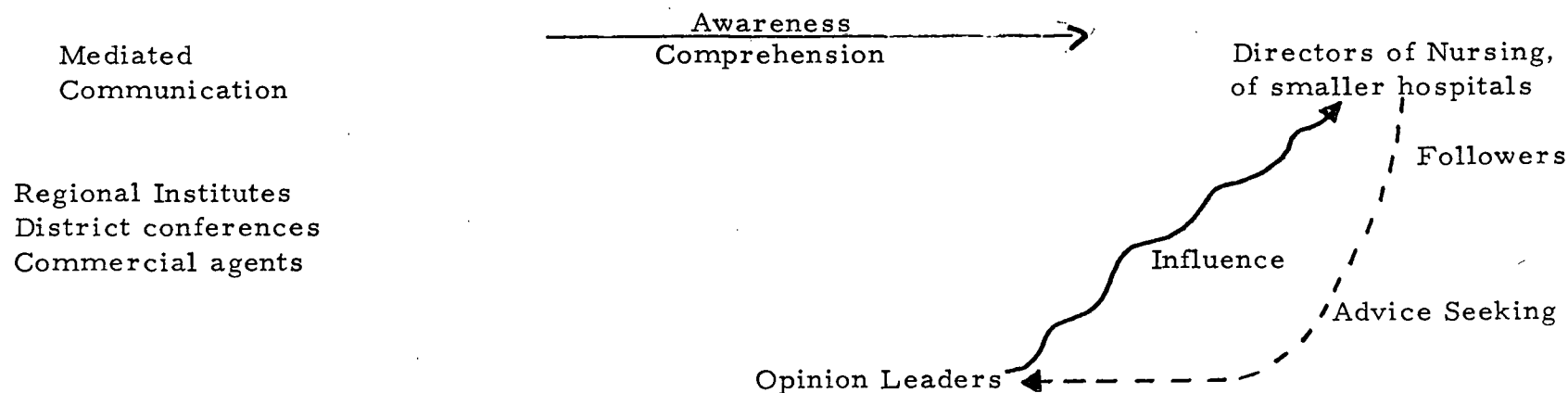


FIGURE 53 TWO CYCLES OF INFLUENCE IN NURSING INFORMATION DISSEMINATION IN BRITISH COLUMBIA

in nursing as it is in farming. The professional intermediaries in nursing (the agents transmitting new information) identified in this study include consultants from the British Columbia Hospital Insurance Service, the staff of the Registered Nurses' Association, commercial agents of the hospital supply houses, and outside experts. Communication is mediated (or transmitted) through professional journals, continuing education programs, professional meetings, arranged visits to other hospitals, commercial literature, films, and books.

A diagrammatic representation, based on Trolldahl's model,^{*} of the two cycles of influence operating in the nursing community of British Columbia, as indicated in the findings from this study, is shown in Figure 53.

Steps in the Process of Information Dissemination about New Nursing Practices

In summarizing the findings in regard to flow of information about new knowledge and technology through the hospitals included in this study, four sequential steps are apparent. These are similar to the five steps described by Wolpert in the dissemination of information to farmers in Sweden.²

^{*} Trolldahl's model is shown on page 37 of Chapter II, Review of the Literature.

1. The focal point for information about new nursing knowledge appears to be Vancouver. Here the major teaching and research centers are situated, as well as the one university school of nursing in the province. The largest number of continuing education programs for nurses are held in Vancouver, and experts are drawn here from other parts of Canada and the United States to give short courses on specialized topics in nursing. The headquarters of the provincial nursing association is also located in Vancouver.

2. The co-ordinating body for new information in nursing appears to be the Registered Nurses' Association of British Columbia. The professional association has taken much of the responsibility for organizing and conducting continuing education programs for nurses in the province with assistance from the Departments of Continuing Medical and Nursing Education of the University of British Columbia. In addition, the Directors of Nursing Service and Nursing Education of the Association consolidate requests by nurses in the province for educational courses and provide consultative services for districts wishing to develop their own programs.

3. Information is disseminated to the larger hospitals in the province. In British Columbia, there are no specifically designated regional centers for the dissemination of information in nursing which parallel the County Agricultural agencies mentioned by Wolpert as

operating in farming districts in Sweden.³ Instead, information seems to flow more directly to the larger hospitals within an area. This is probably due to several factors. These hospitals are able to send more of their staff to educational programs in Vancouver. The Directors of Nursing of the larger hospitals are usually better prepared academically than the nurses in smaller hospitals. They tend to seek information through subscription to more professional journals and go further afield to obtain information than their counterparts in the smaller hospitals. It is the Directors of Nursing of the larger hospitals who take an active part in the professional nursing association. They attend more meetings and are also more involved in holding office or committee-membership in the organization than the nurses from smaller hospitals.

4. Information spreads through the remainder of hospitals. As indicated previously, there is usually one larger hospital in an area which assumes a leading role in transmitting information to smaller hospitals in the district. The larger hospitals usually have better organized in-service educational programs for their own staff and will often invite nurses from other hospitals to join them for educational meetings. Regional institutes are usually held in the larger hospitals. The Directors of Nursing of these hospitals are also used as referents by the Directors of smaller hospitals in the surrounding area.

A hypothetical model illustrating the four steps in the diffusion of innovations in nursing in the province is depicted in Figure 54.

Factors Related to Adoption

Characteristics of the population which it was felt might influence the adoption of innovations in nursing practice were investigated. These included characteristics of the hospital, of the Director of Nursing, of the administrator, and of the nursing staff. Particular emphasis was placed on the first two.

The Hospital

a. Size of the hospital appeared to be a significant factor in the adoption of changes in nursing practice. All of the large hospitals were in the two earlier adopter categories, while the smallest hospitals (those under 30 beds) had the highest proportion of delayed adopters. A general trend of decreasing adaptability with decreasing size was evident both from the proportionate distribution of earlier and later adopters among hospitals of different sizes and also from their Group Mean Adoption Scores. Significantly, the Group Mean Adoption Score of the hospitals under 30 beds was the only one below the population mean.

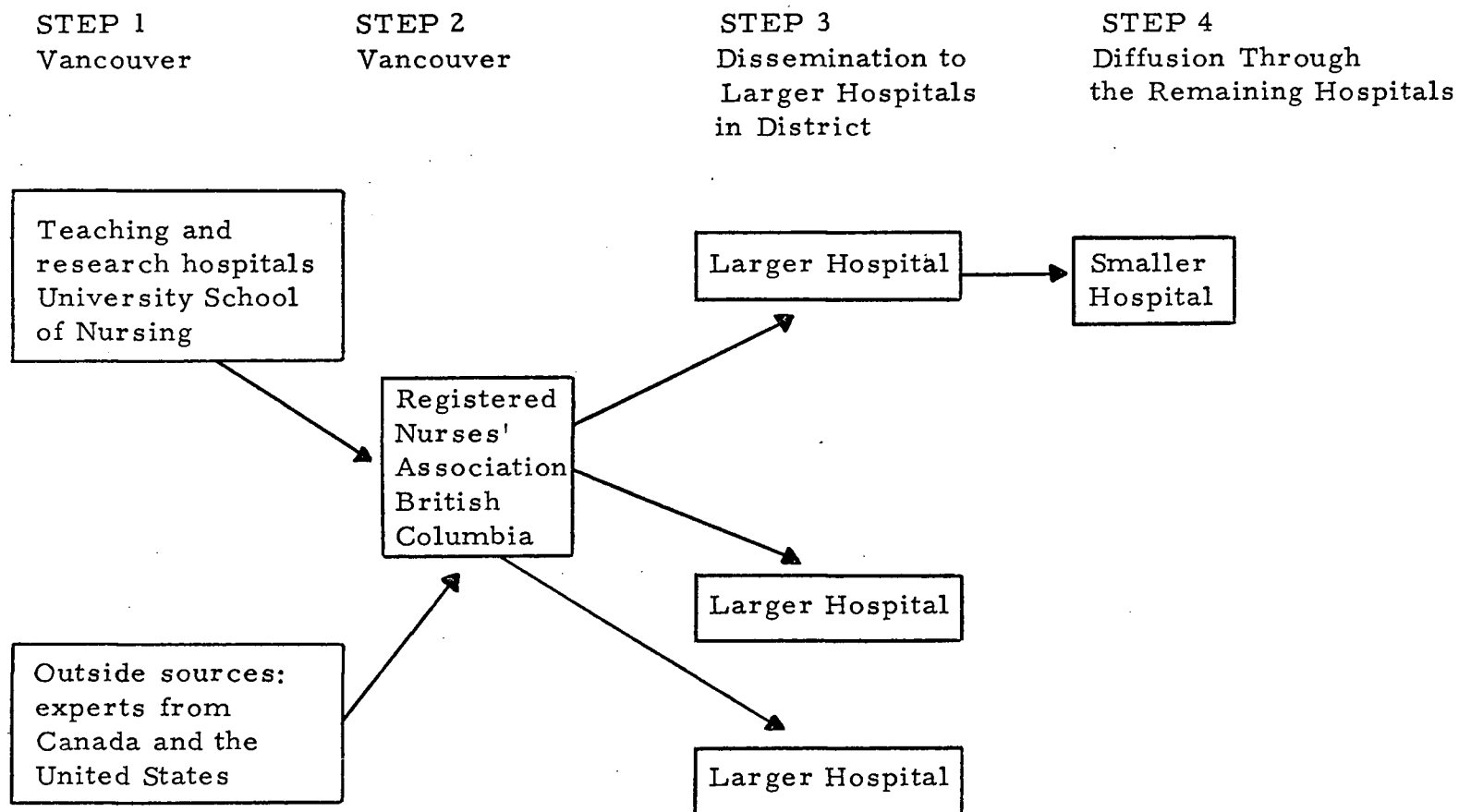


FIGURE 54

FOUR STEPS IN THE DISSEMINATION OF INFORMATION ON
NEW PRACTICES TO NURSES IN BRITISH COLUMBIA -
A HYPOTHETICAL MODEL

b. Teaching Status of the hospital also seemed to have a bearing on early adoption of innovations in nursing practice. All of the teaching hospitals but one were in the innovator-early adopter category, and this one was in the early majority group. The Group Mean Adoption Score of the teaching hospitals was considerably higher than that of any other single group of hospitals.

c. Accessibility to Information Sources was also related to adoption. Although earlier and later adopters were found in all parts of the province, the general trend was for the hospitals in the Lower Mainland and on Vancouver Island, in areas closely adjacent to the principal teaching and research centers in Vancouver, to be among the earlier adopters, while those in areas further removed had a higher proportion of later adopters. The Group Mean Adoption Score of hospitals in the Lower Mainland and on Vancouver Island was correspondingly higher than that of hospitals in other parts of the province.

d. Accreditation of the hospital was another factor which seemed to have a bearing on its adaptability to change in regard to nursing practice. A higher proportion of accredited hospitals were earlier adopters, and they had a higher Group

Mean Adoption Score than non-accredited hospitals.

The Director of Nursing

a. Age in this study, was related to adoption in that participants in the earlier adopter categories were predominantly younger on the whole than the later adopters. The median age category of participants was 45 to 49 years. The majority of earlier adopters were in the median age category or younger, while a high percentage of those in later adopter categories were above the median. The late majority group had the highest percentage of older nurses, and the delayed adopters the next largest group of nurses above the median age category.

b. Professional Nursing Experience was also shown to have a relationship to adoption of innovations. The majority of participants had graduated from their basic nursing programs more than twenty years prior to the study and had been actively engaged in nursing for over 20 years. A little more than one half (58 per cent) had had uninterrupted careers, while the remainder had been out of nursing for a period of time and then returned to their profession. Those with uninterrupted careers appeared to have kept more up-to-date on current practices than those who had been out of nursing for

a while. There were more earlier adopters among the nurses who had worked in nursing continuously, their Group Mean Adoption Score being higher than that of nurses with interrupted careers.

Date of graduation from the basic nursing program appeared to be more closely related to the adoption of innovations than the total number of years in the profession. Of the nurses who had graduated more than 30 years ago, more were in the later adopter groups than among the nurses who had graduated in the median category (20 to 29 years ago) or later.

With regard to tenure, it was found that the participants who had been in their present positions 6 to 10 years had the greatest number of innovators and early adopters, while the group with less than one year of tenure had the next highest percentage in the earlier adopter categories.

Proportionately more later adopters were found among the nurses who had been in their positions 11 to 20 years than in any other group.

c. Marital Status and Number of Children were also found to be related to adoption. Although the single nurses were

in the minority in this particular study, their proportion of earlier adopters was greater and their Group Mean Adoption Score higher than those who were not single. The same trend was found with regard to participants without children, as opposed to those with children.

d. Educational Attainment in this study, was significantly related to adoption of innovations.

(i) academic preparation. There appeared to be a close relationship between academic preparation of the participants and early adoption of innovations. The proportion of innovators and early adopters and also the Group Mean Adoption Score increased steadily as the academic level of the Directors of Nursing rose.

(ii) post basic educational programs. Twenty-nine participants had taken hospital post-graduate courses in nursing, twenty-five university courses, and twenty-eight had taken, or were currently enrolled in the Canadian Nurses' Association correspondence course on Nursing Unit Administration. Of the three programs, the university certificate course was the only one which showed a close relationship to early adoption of innovations. There was a higher proportion of earlier adopters amongst these nurses than in the general population,

and they also had a higher Group Mean Adoption Score.

(iii) general adult education courses. Forty-two of the participants had taken adult education courses of a general nature. There was a slightly higher proportion of earlier adopters among this group than in the general population, and they also had a higher Group Mean Adoption Score than the population mean.

(iv) participation in continuing education programs for nurses Attendance at continuing education programs showed a close relationship to early adoption of new nursing practices, in this particular study. The participants who had attended the largest number of institutes, workshops or other educational programs in the five years prior to the study were predominantly among the earlier adopters, while the majority of those who had attended none were in the late majority or delayed adopter categories. There was a significant difference in the Mean Adoption Scores of these two groups, also, with those who had not been to any educational programs having a score considerably below the population mean.

The location of the courses attended also appeared to be a factor influencing adoption. Seventy-five per cent of those who had been to educational meetings outside the province

were earlier adopters, and the Mean Adoption Score of this group was well above the total population mean.

e. Participation in Professional Nursing Organizations

also showed a close relationship to adoption. Nurses who participated in their professional organizations showed a tendency to adopt new ideas and practices more readily than those who did not participate. The proportion of earlier adopters and the Group Mean Adoption Score increased steadily with the extent of participation in the professional nursing association, as evidenced by attendance at meetings and office-holding or committee membership in the organization. This finding was true of participation at the local, provincial and national levels of the professional nursing association. The majority of participants who reported that they did not attend meetings of their professional association were later adopters. In line with this finding, hospitals in the areas where the nurses were not incorporated into districts of the provincial nursing association had the lowest Group Mean Adoption Score of all of the groups of hospitals when analysis was done on a basis of geographic location.

f. Professional Reading Habits showed a relationship to adoption in only one facet. All participants received The Canadian Nurse

journal which is the official journal of the national nursing association, and most participants reported that they read it regularly.

A significant finding in relation to professional reading habits was that the number of nursing journals reported as subscribed to by the participants corresponded closely to adopter category. The innovator-early adopter group received an average of three nursing journals in addition to the Canadian Nurse; the early majority, two; the late majority, one; and the delayed adopters, none. The amount of time spent in professional reading and the extent of reading of The Canadian Nurse was approximately the same for all adopter categories and, therefore, not significantly related to adoption.

g. The participants' perception of the progressiveness of the hospitals in which they were employed, as evidenced by their indication of the number of radical changes in nursing introduced in the past five years, coincided fairly accurately with the adoption score of the hospital. There was a higher proportion of earlier adopters among those who stated that there had been quite a few changes, and a higher proportion of later adopters among those who said that there had been

few or none at all. Answers to direct questions on whether the hospital was progressive did not show a relationship to the adoption score of the hospital.

The Administrator

a. Specific preparation in hospital administration on the part of the administrator appeared to be a factor in influencing adaptability of the hospital to changes in nursing practice. A higher proportion of earlier adopters and a higher Group Mean Adoption Score were found among hospitals with prepared administrators than among hospitals where the administrator had not had specific preparation in the field.

b. Age of the administrator did not show a significant correlation with adoption. The age categories used in this study, however, covered a wide range, and it is possible that a more sensitive instrument might reveal differences in regard to this characteristic.

c. Prestige, as indicated by affiliation with the American College of Hospital Administrators, did, however, show a relationship to early adoption. The percentage of earlier adopters and the Group Mean Adoption Scores of hospitals

whose administrators were either nominees, members, or fellows of the association were much above the general population norms and significantly higher than hospitals in which the administrator was not so affiliated.

The Nursing Staff

Three characteristics of the nursing staff were investigated in regard to adoption: (1) relative age of the staff; (2) location of the schools of nursing where they had taken their basic nursing education programs; and (3) policies of the hospitals with regard to attendance of staff at educational meetings. Of these three factors, the only one which showed a relationship to adoption of innovations was relative age. It would appear that a fairly mixed age group of nurses is more conducive to adaptability in regard to changing nursing practices than either a predominantly younger or older nursing staff. Proportionately more earlier adopters and a correspondingly higher Adoption Score were found in hospitals where the nursing staff were reported as fairly mixed in age, than in hospitals with either younger or older nurses. The other two factors appeared to be characteristics of the total population rather than factors influencing adoption. All but one hospital reported that the majority of its nursing staff were graduates of Canadian schools of nursing. All but a very few participants stated that the policies of granting leave of

absence with pay for nurses to attend educational meetings and the granting of some financial assistance towards expenses in attending these, were established policies in their hospitals.

Factors Influencing Delay, Rejection and Discontinuance

In analyzing factors influencing delay in the adoption process, rejection of innovations, or their discontinuance following adoption, both the individuals involved in making decisions to adopt or not adopt innovations were considered, as well as the characteristics of the innovation itself.

Stages in the Adoption Process Reached by Participants and Innovation-Response State for all Innovations.

On the average, each hospital had adopted 3.4 of the nine new practices and was unaware of 1.5. Five of the innovations, had been adopted by more than forty percent of the hospitals included in the study. These were the sheepskin pelts, the 'closed glove' technique, open visiting, disposable syringes, and elimination of the 6 a. m. temperature routine. The remaining four innovations, the Australian Lift, the boxing glove mitt restraints, the elimination of drawsheets, and the uses of colored dresses for working with children, had been adopted by a considerably smaller number of hospitals. There were

relatively few rejections of any of the new practices except one, the use of colored dresses for working with children, which up to the time this study was undertaken, had had more rejections than adoptions. The total number of rejections for all innovations was sixty-five (8 per cent of the number of possible adoptions). There were even fewer discontinuances, less than three per cent of all adoptions that had taken place.

As one might expect, there was a higher percentage of innovators and early adopters, and also the early majority group, who had either adopted, or were in the state of continuing with the adoption process, for all innovations. The numbers decreased proportionately among the later adopters. One highly significant finding was the large number of delayed adopters who were unaware of many of the new practices. The delayed adopters also had a higher percentage of rejection of innovations than any other.

Where rejections had occurred, these were usually in the later stages of the adoption process, a fact which suggests that most ideas are given a fair evaluation before being dismissed as unsuitable for a particular hospital. Only in the one instance where there were more rejections than adoptions was there any indication that the idea had not been fully explored before rejection.

The Pattern of Adoptions of Innovations

When adoptions were plotted against time, the graph of cumulative adoptions assumed the typical 'S' shaped curve described by many other workers in the field of diffusion research. There was a marked difference in the sharpness of the curves for the different innovations, showing a more rapid rate of adoption of some of the new practices than others. Some innovations reached a higher peak of adoption also, indicating a more complete acceptance of some new items than others.

The most rapid rate of adoption had occurred in cases where there had been a systematic dissemination of information about the innovation through continuing education courses, advertising by the commercial firms, or publicity through the journals and other literature.

Even in the case of innovations with the most rapid rate of diffusion, however, it was evident that the itinerary of any single innovation through the community of hospitals in the province takes a considerable length of time. The shortest period of time for any of the new practices to be adopted by more than forty per cent of the population was six years. This particular case involved use of

the 'closed glove' technique in the operating room. At the time this research was in progress, the hospital which had been the earliest adopter of this technique reported that the practice was currently being discontinued because of improved techniques. Meanwhile, one fifth of the population had still not heard of it.

Stated Reasons for Adoption, Delay, Rejection, or Discontinuance

In analyzing the reasons given for adoption of the various innovations, the new practices were found to divide into two major categories: those concerned primarily with the safety of the patient, and those adopted principally for the patient's comfort. This division of the innovations into 'safety items' and 'comfort measures' paralleled the original categorization of the new practices into nursing techniques, nursing routines, and disposable items. The techniques were considered chiefly safety items, while the routines were adopted mainly for the comfort of the patient. The disposable syringes were reported as having time and labor-saving advantages over previously used syringes, but, for purposes of analysis, the disposable ones were classified with the techniques, because of the number of nurses who gave as one of the chief reasons for adoption, that they provided a better or 'safer' technique.

The most frequently given reasons for delay, discontinuance or rejection pertained to attributes of the innovation, with its

relative advantage over previously used practices being the most important consideration. Other characteristics, such as an item's communicability or complexity, were also frequently named as reasons for not adopting some of the techniques (safety items). Compatibility with existing practices was the most frequently given reason for delay, rejection or discontinuance of the routines (comfort measures).

Situational factors were given as a reason by delayed adopters, more than any other adopter group for non-acceptance of new nursing routines. The reasons were usually stated in terms of size of the hospital or the community situation. In the case of only one item did a significant number of participants report that a nursing decision to adopt an innovation had been over-ruled. This practice involved elimination of the 6 a.m. temperature routine.

The Decision-Makers

In the section of the study dealing with sources of information, it was reported that the nursing staff of the hospital, the physicians and the administrator were the principal consultants of the Director of Nursing when decisions were being made relative to trial or continued use of an innovation. This finding was borne out in the

individuals, reported as being involved in making the decision to adopt the nine new practices included in the interview schedule.

In only a very few instances it was stated that the Director of Nursing was solely responsible for the adoption of any of the nine innovations. In almost all cases, the nursing staff were brought into the decision-making process. The physicians were frequently consulted, when the new practice might affect other departments of the hospitals, and, where costs were involved, the administrator was also brought into the decision-making process. In the case of the one change in nursing routines which affected community relations (open visiting), the Board of Directors were also involved.

It appears, then, that the Director of Nursing plays a key role in the adoption of innovations of nursing practice within a hospital, but decisions are seldom made in an authoritarian manner. Rather, they are made in consultation with her colleagues.

III. IMPLICATIONS

The members of the Surgeon-General's Conference on Communications in the Health Field suggested that the most effective means for communicating new information to members of the health professions is through a broad framework of continuing education

programs. These programs, supplemented by adequate management of the professional literature, and improved methods for the storage and retrieval of information, would, they felt, go a long way towards resolving the problem of communicating scientific information to health practitioners.⁴

The findings from this study indicate that there is, indeed, a serious problem in the communication of information about new ideas and practices to nurses in the Province of British Columbia. The problem is particularly acute in regard to the nurses employed in small hospitals, where there is minimal contact with other hospitals and other nurses.

The implications of this study will be discussed under three headings, based partly on the recommendations of the Surgeon-General's Conference: (1) The development of a structure of continuing education programs for nurses in the province; (2) the setting up of information-retrieval centers for nursing; and (3) the utilization of existing communication channels.

A Structure of Continuing Education Programs

Although the number of continuing education programs for nurses in the province has been greatly expanded in recent years, it is obvious that many nurses, particularly from smaller hospitals are not able to take advantage of these to the extent that is desirable. With a small staff, it is difficult to release nurses for the time required to travel to, and attend, courses, especially those held in Vancouver. The limited budget of small hospitals also prevents them from sending as many nurses as they would like to educational programs, especially if there are long distances involved in travelling and expensive transportation costs. The development of more regionally-based institutes, conferences and workshops would appear to be an important step in bringing information about new practices to more nurses throughout the province. A plan to increase the number of programs given in regional centers is currently being implemented by the Registered Nurses' Association in conjunction with the University of British Columbia.

In addition, as the proposed system of community colleges for the province develops, it is evident that these institutions will be in an ideal position to provide leadership in the field of continuing education for nurses in their locality. The Selkirk Community College in Castlegar, for example, is planning to initiate a nursing education

program in the near future. It is anticipated that, as future regional colleges are developed, nursing education will be incorporated into the program offerings of these institutions. As the community service function becomes a recognized responsibility of regional colleges, these nursing programs should serve the continuing education needs of the professional nurse. It is suggested that extension courses for nurses, both in the form of short, one to three day programs , and evening courses of extended length, should be integrated into the curricular offerings of the colleges from their inception.

One suggestion for the effective utilization of present and potential resources in the province is the development of a 'systems' approach to continuing education for nurses. The University of British Columbia, as the institution with a history of providing continuing education in remote areas, might be the logical co-ordinating body, with responsibility for overall management of continuing education programs for nurses in the province. This 'systems' approach could utilize the facilities and staff of colleges and other educational institutions to develop a structure of continuing education for the nursing profession in British Columbia.

In addition to making provision for continuing education classes for nurses, consideration should be given to expanding opportunities for individual study for the nurses in isolated areas of the province. It is suggested that correspondence courses and programmed learning in various subject areas would provide the nurses in small hospitals with the opportunity to pursue their studies and keep up with current developments in their field. The popularity of the Canadian Nurses' Association correspondence course on Nursing Unit Administration, particularly among the nurses employed in small hospitals, is indicative of the need felt by many nurses in leadership positions to improve their qualifications. Both individual and group courses could be offered on a credit and non-credit basis for nurses wishing to continue their education on a part-time basis.

Information Retrieval Centers for Nursing

Consideration might be given to the development of a national information-retrieval center for the nursing profession in Canada, similar to the Education Information Retrieval Center (ERIC) for Adult Education at the University of Syracuse in New York. ERIC functions not only as a repository for professional literature on Adult Education but, also, as a dispersal center for the distribution

of information to practitioners in the field. The library at ERIC contains holdings which include all available publications on Adult Education: journals, texts, descriptive studies and abstracts of research studies (including theses and dissertations), as well as details of courses and programs offered in the field and annotated bibliographies on specific topics. The Center disperses information on literature available through a monthly publication of accessions to the library and special publications reviewing research in various subject areas. ERIC will also furnish, on request, copies of annotated bibliographies and programs offerings in Adult Education to individuals who wish these, and also provide Xerox copies on short materials, or microfiche copies of theses and dissertations, at cost.

Since the Canadian Nurses' Association already has an excellent library at National Office in Ottawa, and has become the major repository for nursing studies in Canada, this library might well serve as the nucleus for an information-retrieval center for the profession. In addition to developing services such as those provided by ERIC, the nursing center might also have a library of films, film-strips, tapes, recordings and other audiovisual materials on nursing subjects. It would be important to have a catalogue of the

holdings, describing what is available, with supplements to the catalogue issued at regular intervals. Accessions to the information-retrieval center could be published in The Canadian Nurse, as accessions to the library at National Office are currently, or through independent bulletins.

From the national center, information could be dispersed to nurses throughout the country. The center would serve as an important source of information for the provincial nursing associations. The Registered Nurses' Association of British Columbia has a small library of journals, texts and reports of studies in its provincial office in Vancouver and, probably, similar libraries exist in other provincial nursing associations offices across the country. These small libraries are often missing vital material, however, such as books and essential studies that are no longer available, or are too costly for the provincial libraries to acquire. The resources of a national center would provide a valuable supplement to the material available in the provinces.

In addition, hospitals and other health agencies, as well as individual nurses, could take advantage of the services of a national information-retrieval center to obtain information they cannot get locally. Many hospitals maintain a small nursing library of their own, but these usually contain only a small number of journals and a few nursing textbooks. It has been demonstrated in many other

studies, as well as in the present one, that accessibility to information sources is an important factor in adaptability to change. The need for readily accessible reference material for nurses working in hospitals will have to be interpreted to both hospital administrators and government authorities in charge of financing for hospitals. It is suggested that money for subscription to professional journals and also money for the purchase of up-to-date nursing texts should be allocated as a regular part of the hospital's annual budget.

Utilization of Existing Communication Channels for Nurses in British Columbia

A number of channels of communication used by nurses in the province were identified in the findings from this study. It might be in order to suggest, at this point, ways in which these channels might be utilized more effectively to transmit new information to nurses.

The nursing journals were reported as the most frequently used source of information in first drawing the nurses' attention to new ideas and practices. The Canadian Nurse, which is the most widely read journal in the province, is frequently the only nursing journal received in many hospitals. Its influence is, therefore,

considerable. At the present time, The Canadian Nurse contains two features which are particularly helpful in disseminating new information. One feature concerns new products for use in nursing, the other, news items about innovations in nursing practice, or news from allied professions. It is possible that these features might be expanded, or supplements to the journal, reporting on nursing studies and experiments with new techniques, routines, or staffing patterns, be published at regular intervals.

Probably the most important channel for the communication of new ideas and techniques in nursing is, however, interpersonal communication with colleagues. This was brought out in the findings both on sources of information used by the nurses, and on factors related to adoption of innovations. These findings suggest that more opportunity should be provided for nurses to get together to discuss mutual problems and exchange information about new ideas in nursing. Of particular importance is the need for a primary reference group for the Directors of Nursing, to allow them to meet with others like themselves who hold leadership positions in the nursing community. A beginning has been made in this regard in the regional meetings of Directors of Nursing in various districts of the province. There is a need too, though, for nurses from the

smaller hospitals to meet and exchange ideas with nurses from large hospitals. A parent body is required to co-ordinate these meetings on a provincial basis. The Registered Nurses' Association would appear to be the logical organization to accomplish this purpose. A precedent has been set in this regard by other groups of nurses with specialized functions, such as the operating room nurses and the occupational health nurses, who have their own sections within the nursing association. It seems feasible that the Directors of Nursing might also have their own section.

The development of a particular section of the Registered Nurses' Association for Directors of Nursing might also encourage more Directors to take an active part in the business of the association. Attendance at professional meetings was found to be a significant factor in learning about current developments in nursing. It seems appropriate to suggest, then, that more Directors be encouraged to participate actively in their professional association. Since it is the nurses from the larger hospitals who attend more meetings and serve on more committees, it might be proposed that consideration be given to including representatives from the smaller hospitals when names are being suggested for office, or committees formed. Particular effort should be directed towards drawing the nurses from hospitals in areas not

incorporated into districts of the association into active participation in the organization.

The role of change agents, specifically delegated with the task of disseminating new information in nursing, is one which bears consideration. The professional intermediaries identified in this study included the nursing consultants from the British Columbia Hospital Insurance Service, the staff of the Registered Nurses' Association, commercial agents, and outside experts. Whether these individuals see themselves as agents for the diffusion of information about innovations in nursing is not clear but, certainly, change agents are very much needed in the profession.

As discussed earlier in the study, the commercial representative of the hospital supplyhouse is an important source of information used by Directors of Nursing. The systematic dissemination of information about new products by these individuals has been based largely on the findings of research in the field of marketing. This systematic diffusion appears to have a close relationship to the rate of adoption of innovations, which those who are interested in instigating changes in nursing might do well to study.

The consultative services offered by the nursing staff of the

Hospital Insurance Service are currently not being used to the extent that they might by the Directors of Nursing in the province. This may be due to lack of knowledge on the part of the nurses about the availability of services, or to an insufficient number of consultants to meet the needs of all hospitals. Many nurses indicated to the author that they wished the nursing consultant would make more frequent visits, but few seemed to realize that assistance with particular problems could be requested from the Department. It might be in order, then, to suggest that increased publicity of services available by the nursing consultants would be helpful, and, also, that the staff might be enlarged so that hospitals could be visited more frequently.

The Directors of Nursing Service and Nursing Education of the Registered Nurses' Association might also be considered as potential change agents in nursing. The position of Director of Nursing Service is a new one, which has only recently been filled. In the past, the Director of Nursing Education has been primarily concerned with the planning and organization of continuing education programs for nurses. Since the university is now assuming much of the responsibility for continuing education for nurses in the province, it is possible to

envisage the Directors of Nursing Service and Nursing Education more in the role of change agents in the future, their responsibilities primarily concerned with disseminating new information to individuals engaged in nursing service and nursing education in the province.

IV. AREAS FOR FURTHER RESEARCH

This study was a broad preliminary examination of the process of diffusion of innovations in nursing practice. It has concerned itself primarily with the transmission of information from outside sources to the Directors of Nursing employed in hospitals in the province of British Columbia. It is hoped that the findings reported here may provide some insight into the process by which information about new ideas and practices is communicated to members of the nursing profession. It is also hoped that these findings will be useful to those involved in planning continuing education programs for nurses, and to those interested in devising adequate storage and retrieval mechanisms for the vast amount of literature that is rapidly accumulating in the profession.

In the conduct of this study, many areas where research is needed have been indicated.

A logical subject for a study to follow. this one is an investigation of the process by which information about new nursing practices is disseminated to the nurses within the hospital. Some of the questions that might be asked are: How does information about new nursing practices filter down from the Director of Nursing, to the supervisory staff, to the general duty nurses on the wards of the hospital? What channels are there for the exchange of information about new nursing practices between nurses working in different departments of a hospital? Who are the opinion leaders within the nursing staff? How do they exert their influence? What factors influence individual nurses to accept innovations or to reject them?

An analysis of the in-service aspects of continuing education for nurses in hospitals in British Columbia might also be useful. The majority of Directors of Nursing of the hospitals included in this study indicated that they had some form of in-service educational program for the nursing staff but there are several questions in regard to in-service programs that remain unanswered. An investigation of the types of programs offered might reveal answers to such questions as: What in-service educational programs are presently

available? Towards what objectives are they directed? How well do they fulfill the needs of the nursing staff?

An analysis of the role of the change agent in nursing might profitably be undertaken. Such an analysis might answer the following questions: Who, in the nursing community is best suited for the role of change agent? What characteristics should this individual have? What are the most effective methods to be employed by individuals who have the specific responsibility for instigating changes in nursing?

The extent of the commercial salesman's influence in affecting decisions to adopt nursing innovations would also appear to be important. The salesman from the hospital supply house is a frequently used source of information on new practices in nursing, as revealed in the findings from this study, but how much influence does he actually have in decisions regarding the adoption of innovations? What methods are employed by this individual in his systematic diffusion of information about nursing innovations? Could these methods be utilized by nurses to disseminate information they wished to transmit?

There are many more possibilities for research on the subject of continuing education courses for nurses. An analysis of the participants in continuing education programs might reveal factors which influence some nurses to take advantage of courses offered while others are apathetic about attending. What type of programs do the nurses feel they need? Which methods and techniques are best suited for use in continuing education programs? How effective are the short, continuing education programs in bringing about changes in knowledge, attitudes or behaviour of those who attend?

CHAPTER VII

FOOTNOTES

1. Supra, Chapter II, pp. 35, 36.
2. Supra, Chapter II, pp. 35 - 38.
3. Ibid.
4. Supra, Chapter I, p. 3.

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APPENDICES

Rated Bed Capacity, Daily Patient Occupancy and Staffing

Statistics of Hospitals Included in the Study

Staff

	Rated bed Capacity	Bassinets	Daily Patient Occupancy	<u>Nursing Staff</u>			Other	Total
				Grad.	Stud.	Other		
Type A - 201 Beds and over								
1.	1634	137	1,489.71	968.0	493.3	757.7	1,880.4	4,099.4
2.	512	62	494.68	357.7	280.0	222.4	521.3	1,309.4
3.	485	72	342.3	230.4	-	145.4	327.4	703.6
4.	482	39	497.58	338.7	243.4	274.8	578.1	1,435.0
5.	448	48	373.66	251.6	107.7	230.1	402.1	991.5
6.	434	51	419.61	250.0	256.7	179.9	474.0	1,160.6
7.	270	45	213.33	136.0	115.4	77.5	206.8	535.7
8.	256	47	159.55	94.3	-	57.1	112.7	264.1
9.	243	69	228.3	135.5	-	84.8	143.4	363.7
10.	242	43	216.89	126.5	-	100.7	141.5	368.7
11.	225	43	179.19	107.3	-	74.2	143.5	325.0

Type B - 75 to 200 beds

12.	180	31	174.25	109.15	-	44.2	145.7	299.4
13.	164	22	131.58	88.2	-	54.5	109.3	252.0
14.	163	20	142.04	100.4	-	56.2	126.2	282.8
15.	146	27	152.11	75.9	-	62.5	96.9	235.3
16.	132	29	109.78	65.1	-	45.8	71.0	181.9
17.	126	27	95.78	62.7	-	28.18	69.1	160.6
18.	121	32	61.9	61.9	-	45.6	96.2	203.7

(continued)

				<u>Staff</u>				
	Rated Bed Capacity	Bassinets	Daily Patient Occupancy	<u>Nursing Staff</u>			Other	Total
				Grad.	Stud.	Other		
19.	117	20	88.73	58.2	-	21.9	80.6	160.7
20.	113	29	75.28	40.9	-	24.7	66.3	131.9
21.	111	28	85.17	50.3	-	23.0	75.0	148.3
22.	109	25	91.3	48.3	-	37.6	82.4	168.3
23.	106	14	79.81	44.4	-	23.6	65.7	133.7
24.	103	17	98.63	60.8	-	38.5	66.2	165.5
25.	100	29	89.72	46.8	-	39.0	70.6	156.4
26.	94	30	73.42	46.9	-	27.0	66.5	140.4
27.	91	26	80.51	40.0	-	25.8	56.2	122.0
28.	88	12	81.87	54.6	-	28.5	62.0	145.1
29.	85	19	69.83	31.0	-	29.0	55.1	115.1
30.	85	14	72.9	48.9	-	27.6	61.8	138.3
31.	78	12	74.6	34.7	-	26.3	56.0	117.0
Type C - 30 to 74 Beds								
32.	74	21	62.64	31.9	-	24.6	50.9	107.4
33.	72	18	58.75	35.4	-	22.6	48.1	106.1
34.	70	12	58.25	27.7	-	16.0	47.4	91.1
35.	67	18	61.89	34.9	-	19.5	41.8	96.2
36.	66	5	50.98	26.7	-	27.3	47.1	101.1
37.	63	8	50.07	21.7	-	18.5	36.1	76.3
38.	61	12	47.05	13.2	-	18.8	30.5	62.5
39.	56	14	46.92	26.7	-	15.2	40.2	82.1
40.	54	16	47.95	27.2	-	12.7	34.1	70.0
41.	54	12	58.19	24.3	-	22.9	43.4	90.6
42.	50	4	31.66	14.1	-	10.1	30.3	54.5

(continued)

				<u>Staff</u>				
	Rated bed Capacity	Bassinets	Daily Patient Occupancy	<u>Nursing Staff</u>				Total
				Grad.	Stud.	Other	Other	
43.	50	12	40.41	25.3	-	13.9	30.0	70.2
44.	45	8	23.33	14.4	-	11.3	24.2	49.9
45.	45	8	44.85	16.1	-	20.1	33.3	69.5
46.	44	15	49.87	22.9	-	15.2	35.2	73.3
47.	43	10	35.24	18.4	-	13.0	25.8	57.2
48.	43	7	33.92	14.0	-	7.0	24.3	45.3
49.	43	8	31.21	15.8	-	8.5	28.0	52.3
50.	41	8	27.25	12.8	-	6.4	20.2	39.4
51.	40	4	40.15	20.1	-	15.7	41.4	77.2
52.	37	10	31.62	14.0	-	10.0	22.9	46.9
53.	37	8	33.81	16.8	-	10.1	27.2	54.1
54.	35	10	31.92	15.3	-	8.8	26.0	50.1
55.	33	12	30.34	13.0	-	14.4	20.2	47.6
56.	33	2	29.01	20.9	-	-	20.0	40.9
57.	33	9	20.61	9.0	-	5.2	16.2	30.4
58.	31	7	19.28	8.6	-	5.6	16.7	30.9
59.	31	8	8.14	5.8	-	5.0	8.4	19.2
60.	30	12	23.39	12.9	-	4.3	18.8	36.0
61.	30	6	24.27	11.5	-	9.4	18.6	39.5
62.	30	8	28.92	12.4	-	10.0	18.3	40.7
63.	30	4	25.77	13.1	-	7.0	22.6	42.7

Type D - Under 30 beds

64.	28	4	22.68	8.5	-	4.7	15.3	28.5
65.	27	4	10.71	6.1	-	5.0	9.4	20.5
66.	26	2	16.53	8.8	-	3.3	14.7	26.8

(continued)

				<u>Staff</u>				
	Rated Bed Capacity	Bassinets	Daily Patient Occupancy	<u>Nursing Staff</u>			Other	Total
				Grad.	Stud.	Other		
67.	26	5	15.08	7.1	-	5.0	13.7	25.8
68.	25	4	15.12	7.4	-	5.9	12.9	26.2
69.	25	5	24.37	10.7	-	9.9	16.4	37.0
70.	25	2	11.61	5.8	-	9.5	13.2	28.5
71.	25	6	18.57	9.3	-	6.2	13.4	28.9
72.	24	6	21.7	12.4	-	8.1	15.8	36.3
73.	24	6	21.32	6.5	-	8.3	15.9	30.7
74.	21	3	8.14	4.2	-	3.2	8.2	15.6
75.	21	6	15.93	6.4	-	4.9	8.9	20.2
76.	21	10	10.07	4.9	-	5.4	11.1	21.4
77.	21	2	9.92	5.7	-	2.5	7.8	16.0
78.	21	4	16.46	8.8	-	4.6	13.4	26.8
79.	21	6	13.96	7.7	-	3.9	9.7	21.3
80.	19	2	6.59	4.8	-	2.7	6.4	13.9
81.	18	8	22.92	8.1	-	8.6	13.9	30.6
82.	17	2	14.53	6.5	-	4.0	8.7	19.2
83.	16	5	11.13	5.9	-	2.5	4.1	12.5
84.	15	1	10.17	5.5	-	3.3	7.7	16.5
85.	9	2	3.38	3.5	-	1.3	.3	5.1

APPENDIX B

THE INTERVIEW SCHEDULE

I. METHOD OF ADMINISTRATION

A structured interview technique was employed to obtain information from the Directors of Nursing of the hospitals included in the study. The instrument used as a basis for conducting the interview and for recording data was the Interview Schedule. The construction of the schedule was described in Chapter I, pages 13 to 19. A standard format for conducting the interview was developed and used throughout the series of visits to the eighty-five hospitals.

The first section of the interview schedule concerned information about the Directors of Nursing, the hospital, the community, the administrative personnel and the nursing staff. The questions in this section were asked in the form in which they appear in the schedule and data were recorded directly as the information was given.

The second section of the schedule dealt with sources of information used by the Directors of Nursing at each stage of the adoption process. In administering this section, the author handed each participant a card which contained a list of possible sources which it was felt might be used by nurses. The compilation of this list was described on pages 13 and 14 of Chapter I. The participant was asked to select from the list

sources she had found most helpful or to name others she had used at various stages in the adoption process (as outlined in the questions on page 11 of the schedule). A free choice was given and the participants were instructed that they could name as many, or as few, as they wished. In addition, if a participant gave 'other Directors of Nursing' as a source at any stage, she was asked to name the hospital she wrote to, or otherwise communicated with, concerning new practices in nursing. This information was later used to trace the communication links between hospitals.

In administering the third section of the Interview Schedule concerning the adoption of innovations, it was necessary to rephrase the questions in less technical terms. Again, a standard format was developed. Each participant was handed a card containing the list of innovations. The following question was asked about each innovation:

Are you using this practice, or have you used it in your hospital? If the participant answered "yes", one series of questions was asked, if "no", an alternative series was used.

A. In the case of an affirmative answer, the following questions were used:

1. When did you start using this practice in your hospital?
2. To what extent are you using it now?
3. When did you first hear about it?
4. Where did you first hear of it?
5. Did it take you long to start using this after you had first heard about it?

If a delay of two years or more was indicated, the next question was:

6. Why did it take so long?

Then,

7. Are you continuing to use this practice?

If not,

8. Why are you not using it now?

Then,

9. Who made the decision to use this practice?

and

10. Why did you decide to use it?

Finally,

11. Where else did you get information about this particular practice?

B. If the participant gave a negative answer to the first question, indicating that the practice had never been used in her hospital, the following question was asked:

Have you heard of this practice?

If the answer was "no," no further questions were asked about this innovation.

If the respondent answered "yes", the following were asked:

1. When did you first hear about it?
2. Where did you hear about it?

3. Have you done anything about this practice, that is, have you tried to get more information on it, or have you discussed it with anyone?
4. Have you considered using it in this hospital?

If the participant indicated that the practice had been rejected for use in their hospital, the question was asked:

5. Why did you decide not to use it here?

Similarly, if the participant stated that she was interested in the idea but had not proceeded beyond the interest, evaluation, or trial stage, she was asked

6. Why has there been a delay?

Finally,

7. What other sources of information have you used in regard to this practice?

The information gathered from the Directors of Nursing was recorded on the Interview Schedule in the form in which the questions appear in pages 13a to 15c of the Schedule.

2. CHOICE OF TOOLS

The innovations in nursing practice investigated during the course of this study were the tools used to determine how information is transmitted in the nursing community. The manner in which the specific practices were selected was described in Chapter I on pages 14 and 15.

The initial list of fourteen items was compiled following discussions with teachers and supervisors of the nursing staffs of two of the large hospitals in the Lower Mainland area. Many of the innovations suggested by the nurses were ones which had come about as a result of changing medical practice. Only those innovations which were considered to be primarily in the realm of nursing practice were included.

Relatively neutral, rather than highly controversial items were chosen, which could be used in both rural and urban hospitals. In the initial selection of items, Dr. Coolie Verner with his background of experience in diffusion-adoption studies and his knowledge of rural sociology, was of invaluable assistance.

The list of fourteen innovations in nursing practice was subsequently evaluated by the author's dissertation committee, which included a physician, a statistician, and experts in the field of education. The Committee recommended using only one "disposable" item rather than the six which were

on the original list. It was felt that using the six commercial items would be a duplication of effort and it was preferable to focus the study on behavioral changes in regard to professional and administrative aspects of nursing practice.

3. INTERVIEW SCHEDULE

Respondent's Name:

Name of Hospital:

Location of Hospital:

Bed Capacity of Hospital:
(1967)

Number of Graduate Nurse Staff:

Telephone Number:

Code Number of Hospital:

Record of Visit:

Date

Time

Comments:

Hello, I'm Mrs. Beverly DuGas. I am conducting a study for the University of British Columbia.

I would like to have your assistance in this by answering some questions. Please answer these questions as clearly and as honestly as you can.

THIS INFORMATION IS FOR THE PREPARATION OF STATISTICAL REPORTS
ONLY AND IS STRICTLY CONFIDENTIAL

1. What is your age?

1. 21-24
2. 25-30
3. 31-34
4. 35-39
5. 40-44
6. 45-49
7. 50-54
8. 55-60
9. 60 or over

2. What is your marital status?

1. single
2. married
3. widowed
4. separated
5. divorced

3. How many children do you have?

1. none
2. 1 - 2
3. 3 - 4
4. 5 or more

4. What was the highest year you completed in school?

1. University Entrance
2. first year university
3. second year university
4. university degree in nursing
5. university degree other than nursing
6. master's degree

5. Where did you take your basic nursing course?

1. diploma school of nursing in B.C.
2. the U.B.C. School of Nursing
3. diploma school of nursing outside B.C. but in Canada

2.

Question 5 continued

4. university school of nursing outside B.C.
 5. U.K.
 6. U.S.A.
 7. Europe
 8. Asia
 9. other
6. Have you taken any hospital post-graduate courses in nursing?
1. yes
 2. no
7. If so, which course or courses did you take?
1. operating nursing
 2. obstetric nursing
 3. Pediatric nursing
 4. Psychiatric nursing
 5. Neuro surgical nursing
 6. other
8. Have you taken any certificate courses at a University?
1. yes
 2. no
9. If you answered "yes" to number 8, what course or courses did you take?
1. ward administration
 2. teaching
 3. teaching and supervision
 4. public health nursing
 5. course in clinical subject
 6. other
10. Have you taken the C.N.A. course on Ward Administration?
1. yes
 2. no
11. Have you taken night school or correspondence courses?
1. courses leading to a degree in nursing
 2. courses leading to a degree other than nursing
 3. general interest courses
 4. none

3.

12. Do you enjoy nursing?

1. yes, very much
2. yes, most of the time
3. about average
4. not all the time
5. not at all

13. When did you graduate from your school of nursing?

classification of response

1. less than 5 years ago
2. 5 - 9 years ago
3. 10 - 14 years ago
4. 15 - 19 years ago
5. 20 - 29 years ago
6. over 30 years ago

14. Have you worked in nursing continuously since graduation?

1. yes
2. no

15. How many years have you worked in nursing altogether?

classification of response

1. less than 5 years
2. 5 - 9 years
3. 10 - 14 years
4. 15 - 19 years
5. 20 - 29 years
6. over 30 years

16. How long have you been in your present position?

classification of response

1. less than one year
2. one to two years
3. three to five years
4. six to ten years
5. eleven to twenty years
6. more than twenty years

17. What position did you hold immediately before you took this position?

1. Director of Nursing at another hospital
2. Supervisor
3. Head Nurse
4. Staff Nurse
5. Public Health Nurse
6. Instructor
7. Other (specify) _____

4.

18. Where was this position?

1. in a large hospital in B. C.
2. in a small hospital in B. C.
3. in a large hospital in another part of Canada
4. in a small hospital in another part of Canada
5. in a hospital in another country
6. other (specify) _____

19. Do you attend the local chapter meetings of the R.N.A.B.C?

1. always
2. most of the time
3. sometimes
4. rarely
5. never

20. Have you held - or do you hold - an office in the local chapter?

1. yes, currently hold one
2. yes, but not now
3. no, I have never held an office

21. Do you attend the Annual Meetings of the R.N.A.B.C?

1. always
2. most of the time
3. sometimes
4. rarely
5. never

22. Have you held - or do you hold - an office in the provincial nursing association?

1. yes, currently hold an office
2. yes, but not now
3. no

23. Do you attend the biennial meetings of the C.N.A?

1. always
2. most of the time
3. sometimes
4. rarely
5. never

24. Have you held - or do you hold - an office in the C.N.A?

1. yes, currently hold an office
2. yes, but not now
3. no

5.

25. Have you attended any nursing institutes, workshops, or other short educational programs in the past five years?

1. yes
2. no

If you answered "yes" to the previous question, please specify which ones you attended.

a) _____ b) _____ c) _____ d) _____

26. Classification of number of courses attended

1. none
2. one
3. two
4. three
5. more than three

27. Where was the course (s) held? _____

28. Do you send nurses to institutes or other educational meetings held in Vancouver?

1. yes
2. no

29. Do you send nurses to the regional institutes?

1. yes
2. no

30. Do nurses get leave of absense with pay to attend educational meetings (institutes)?

1. routinely
2. sometimes
3. no L/A given
4. L/A but without pay

31. Do nurses receive money from the hospital to attend educational meetings?

1. yes, always
2. sometimes
3. never

6.

32. Who is the Administrator of the Hospital?

1. a physician
2. a local business man
3. a trained administrator
4. other _____

33. What is his (her) approximate age?

1. under 35 years
2. 36 - 50 years
3. over 50 years
4. over 60 years

34. Is he (she) a member of the Hospital Board?

1. yes
2. no

35. Have there been any radical changes in your hospital with regard to nursing technique within the last five years?

1. yes, quite a few
2. some, but not too many
3. a few
4. none at all

36. Do you have any In-Service Educational Program for the nursing staff?

1. yes
2. no

37. How often do you hold meetings in order to bring your staff up to date on the latest nursing techniques?

1. once a week
2. every two weeks
3. once a month
4. every once in a while

38. Do you receive much information from the R.N.A.B.C?

1. yes, all information received is from the R.N.A.B.C?
2. yes, but not all
3. some
4. none

7.

39. Do you receive much of the information mentioned in the previous question from sources other than the R.N.A.B.C?
1. yes, entirely
 2. yes, but not all
 3. some
 4. none
40. Are all the new ideas which are brought to your attention pressed into service?
1. yes, all
 2. yes, most
 3. some
 4. none
41. Do you feel you have the latest up-to-date equipment used in nursing?
1. yes, most of it
 2. some
 3. a little
 4. none, most equipment is hopelessly outdated
42. Is your staff trained to use the latest nursing equipment?
1. yes, all the staff
 2. yes, most of the staff
 3. some of the staff
 4. a few of the staff
 5. none of the staff is familiar with the latest equipment
43. Is it difficult to obtain the latest equipment?
1. not at all
 2. not too difficult, but sticky at times
 3. most of the time
 4. all of the time
 5. it is impossible to obtain new equipment
44. Do you find that a lack of equipment prevents you from putting new techniques into practice?
1. not at all
 2. yes, a bit
 3. yes, quite a bit
 4. it is impossible to do anything new without the proper equipment

8.

45. Do you think your hospital is progressive?

1. very progressive
2. fairly progressive
3. not progressive at all

46. Is your hospital as progressive as you think it should be?

1. yes
2. it is progressive, but I would like to see more
3. not at all

47. If your hospital is not as progressive as you think it should be in nursing, who is holding up progress?

1. Federal Government
2. Provincial Government
3. Municipal Government
4. the Hospital Board of Directors
5. the Hospital Administrator
6. R.N.A.B.C.
7. our Hospital is progressive
8. I don't know

48. Is the chairman of the Board a member of the medical profession?

1. yes
2. no

49. Are you a member of the Board?

1. yes
2. no

50. How many doctors are on the Board? _____

classification of response

1. one
2. two - three
3. four - seven
4. more than seven

51. How many members of the community other than doctors are on the Board of Directors?

1. none
2. one
3. two - three
4. four - seven
5. more than seven

9.

52. Do you think that the community is properly and adequately represented?

1. yes
2. no

53. Does the community support the hospital and its policies?

1. yes, support it
2. most of the time
3. does not support or approve it
4. oppose it
5. not known

54. Does the hospital have a Women's Auxilliary?

1. yes
2. no
3. not an organized group, but volunteers come in to help

55. Does the hospital have a Candy-Striper or other volunteer service program for teen-age girls in the community?

1. yes
2. no
3. not an organized group, but some do come in to help

56. Do the high schools in your community have a Future Nurses' Club?

1. yes, most of them
2. some of them
3. none of them
4. never heard of them

57. Is your nursing staff:

1. predominantly young
2. middle aged
3. fairly mixed

58. What percentage of your staff are graduates of B.C. Schools of Nursing?

1. 0% - 25%
2. 25% - 50%
3. 50% - 75%
4. 75% - 100%

10.

59. Graduates of Canadian Schools of Nursing (other than B.C.)

1. 0% - 25%
2. 25% - 50%
3. 50% - 100%
4. 75% - 100%

60. British

1. 0% - 25%
2. 25% - 50%
3. 50% - 75%
4. 75% - 100%

61. Other

1. 0% - 25%
2. 25% - 50%
3. 50% - 75%
4. 75% - 100%

62. Do you read The Canadian Nurse?

1. yes, regularly read every article
2. read most of the articles in it
3. look at some articles
4. rarely look at it
5. never open it

63. Which nursing journals, besides The Canadian Nurse do you receive?

a. _____ b. _____ c. _____ d. _____ e. _____

classification of response

Number of journals received.

1. 1
2. 2
3. 3
4. 4
5. 5

64. Is Nursing Research among the journals listed as received?

1. yes
2. no

11.

65. How much time, on the average, do you spend in professional reading?

1. one hour a day
2. one half an hour a day
3. a couple of hours a week
4. one hour a week
5. one half hour a week
6. occasionally pick up a journal and read it

THE NEXT QUESTIONS WILL DEAL WITH SOURCES OF INFORMATION ABOUT IMPROVED PRACTICES.

(Hand the respondent the list of sources of information)

On this card are a number of sources of information where you might learn about improved nursing practices. In answering the next few questions, I want you to give me the numbers and/or the letters of the sources of information which apply.

66 - 70 What source or sources have you found to be most useful in finding out about new or improved practices which can be used in your hospital?

71 - 76 When you have found an item about a new or improved practice which interests you, to which source or sources do you go for further information on how you can possibly use it in your hospital?

77 - 82 When you have received information on a new or improved practice, which source or sources do you use to help you evaluate the information acquired in the light of existing conditions into which the practice would have to fit?

83 - 88 After you have weighed the information available, what source or sources do you use in finding information on how to apply the practice?

12.

89 - 94

When you have found out how to apply the practices,
which source or sources do you use in deciding whether
or not to adopt the practice?

13.

INFORMATION ON NURSING PRACTICES

To complete the interview, I would like to ask some questions in relation to the nursing practices that are listed on the Innovations in Nursing card.

Are you using this practice? If yes, when was it first used in this hospital?

a. _____ b. _____ c. _____ d. _____ e. _____

If you are not using this practice, are you aware of it? If yes, when did you become aware of it?

a. _____ b. _____ c. _____ d. _____ e. _____

I. What steps have you taken in regard to this practice?

- | | | | |
|--------------|--------------|-------------|---------------|
| 1. not aware | 2. awareness | 3. interest | 4. evaluation |
| 5. trial | 6. adoption | | |

II. You became aware of this practice in _____. What was the length of time between awareness and the stage reached in the adoption process?

- | | | |
|-----------------------|----------------|----------------|
| 1. now aware | 5. three years | 9. seven years |
| 2. less than one year | 6. four years | 10. more than |
| 3. one | 7. five years | seven years |
| 4. two years | 8. six years | |

What reason would you give for spending more than two years trying to decide whether or not to use this practice?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

13A

a. Australian lift		b. Mitt restraints		c. glove technique		d. sheepskin pelts		e. urology adaptor protector	
I. 101	1 2 3 4 5 6	113	1 2 3 4 5 6	125	1 2 3 4 5 6	137	1 2 3 4 5 6	149	1 2 3 4 5 6
II. 102	1 2 3 4 5 6 7 8 9 10	114	1 2 3 4 5 6 7 8 9 10	126	1 2 3 4 5 6 7 8 9 10	138	1 2 3 4 5 6 7 8 9 10	150	1 2 3 4 5 6 7 8 9 10

14.

III. Classification of the reason for a delay of more than **two** years between awareness and the stage reached in regard to this practice.

- | | |
|-----------------------|------------------------------------|
| 1. relative advantage | 6. situational factor |
| 2. compatibility | 7. over-ruling of nursing decision |
| 3. complexity | 8. |
| 4. divisibility | 9. |
| 5. communicability | 10. |

IV. Which of the following describes your position in regard to this practice?

1. continuing with the adoption process
2. rejection
3. adoption
4. discontinuance

What reason would you give for rejecting or discontinuing this practice?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

V. Classification of the reason for rejecting or discontinuing the practice.

- | | |
|-----------------------|------------------------------------|
| 1. relative advantage | 6. situational factor |
| 2. compatibility | 7. over-ruling of nursing decision |
| 3. complexity | 8. |
| 4. divisibility | 9. |
| 5. communicability | 10. |

If the practice has been adopted, who made the decision to adopt it?

- a. _____ b. _____ c. _____ d. _____ e. _____

14A

a. Australian lift			b. Mitt restraints		c. glove technique		d. sheepskin pelts		e. urology adaptor protector	
III	103	1 2 3 4 5 6 7 8 9 10	115	1 2 3 4 5 6 7 8 9 10	127	1 2 3 4 5 6 7 8 9 10	139	1 2 3 4 5 6 7 8 9 10	151	1 2 3 4 5 6 7 8 9 10
IV	104	1 2 3 4	116	1 2 3 4	128	1 2 3 4	140	1 2 3 4	152	1 2 3 4
V	105	1 2 3 4 5 6 7 8 9 10	117	1 2 3 4 5 6 7 8 9 10	129	1 2 3 4 5 6 7 8 9 10	141	1 2 3 4 5 6 7 8 9 10	153	1 2 3 4 5 6 7 8 9 10

15.

VI. Classification of personnel responsible for making the decision to adopt the practice.

- | | |
|---------------------------|-------------------|
| 1. Director of Nursing | 5. Hospital board |
| 2. Nursing staff | 6. other |
| 3. Medical staff | |
| 4. Hospital administrator | |

VII. If the practice has been adopted, what reason would you give for adopting it?

- | | |
|---------------------------|--------------------------|
| 1. time saving | 5. safety of the patient |
| 2. labour saving | 6. administrative order |
| 3. money-saving | 7. other |
| 4. comfort of the patient | |

VIII. Look at the sources of information on the card and tell me the numbers of the sources of information that you used in relation to this practice.

15A

a. Australian lift		b. Mitt restraints		c. glove techniques		d. sheepskin pelts		e. urology adaptor protector	
VI	106	1 2 3 4 5 6	118 1 2 3 4 5 6	130	1 2 3 4 5 6	142	1 2 3 4 5 6	154	1 2 3 4 5 6
VII.	107	1 2 3 4 5 6 7	119 1 2 3 4 5 6 7	131	1 2 3 4 5 6 7	143	1 2 3 4 5 6 7	155	1 2 3 4 5 6 7
VIII	108	_____	120	_____	132	_____	144	_____	156
	109	_____	121	_____	133	_____	145	_____	157
	110	_____	122	_____	134	_____	146	_____	158
	111	_____	123	_____	135	_____	147	_____	159
	112	_____	124	_____	136	_____	148	_____	160

13.

INFORMATION ON NURSING PRACTICES

To complete the interview, I would like to ask some questions in relation to the nursing practices that are listed on the Innovations in Nursing card.

Are you using this practice? If yes, when was it first used in this hospital?

a. _____ b. _____ c. _____ d. _____ e. _____

If you are not using this practice, are you aware of it? If yes, when did you become aware of it?

a. _____ b. _____ c. _____ d. _____ e. _____

I. What steps have you taken in regard to this practice?

- | | | | |
|--------------|--------------|-------------|---------------|
| 1. not aware | 2. awareness | 3. interest | 4. evaluation |
| 5. trial | 6. adoption | | |

II. You became aware of this practice in _____. What was the length of time between awareness and the stage reached in the adoption process?

- | | | |
|-----------------------|----------------|----------------|
| 1. now aware | 5. three years | 9. seven years |
| 2. less than one year | 6. four years | 10. more than |
| 3. one | 7. five years | seven years |
| 4. two years | 8. six years | |

What reason would you give for spending more than two years trying to decide whether or not to use this practice?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

13B

f. open visiting hours			g. elimination of 6:00 a.m. temperature			h. elimination of drawsheets			i. colored dresses paediatrics		
I.	161	1 2 3 4 5 6	173	1 2 3 4 5 6		185	1 2 3 4 5 6		197	1 2 3 4 5 6	
II.	162	1 2 3 4 5 6 7 8 9 10	174	1 2 3 4 5 6 7 8 9 10		186	1 2 3 4 5 6 7 8 9 10		198	1 2 3 4 5 6 7 8 9 10	

14.

III. Classification of the reason for a delay of more than **two** years between awareness and the stage reached in regard to this practice.

- | | |
|-----------------------|------------------------------------|
| 1. relative advantage | 6. situational factor |
| 2. compatibility | 7. over-ruling of nursing decision |
| 3. complexity | 8. |
| 4. divisibility | 9. |
| 5. communicability | 10. |

IV. Which of the following describes your position in regard to this practice?

1. continuing with the adoption process
2. rejection
3. adoption
4. discontinuance

What reason would you give for rejecting or discontinuing this practice?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

V. Classification of the reason for rejecting or discontinuing the practice.

- | | |
|-----------------------|------------------------------------|
| 1. relative advantage | 6. situational factor |
| 2. compatability | 7. over-ruling of nursing decision |
| 3. complexity | 8. |
| 4. divisibility | 9. |
| 5. communicability | 10. |

If the practice has been adopted, who made the decision to adopt it?

- a. _____ b. _____ c. _____ d. _____ e. _____

14B.

f. open visiting hours	g. elimination of 6:00 a.m. temperature	h. elimination of drawsheets	i. colored dresses paediatrics
III. 163 1 2 3 4 5 6 7 8 9 10	175 1 2 3 4 5 6 7 8 9 10	187 1 2 3 4 5 6 7 8 9 10	199 1 2 3 4 5 6 7 8 9 10
IV. 164 1 2 3 4	176 1 2 3 4	188 1 2 3 4	200 1 2 3 4
V. 165 1 2 3 4 5 6 7 8 9 10	177 1 2 3 4 5 6 7 8 9 10	189 1 2 3 4 5 6 7 8 9 10	201 1 2 3 4 5 6 7 8 9 10

15.

VI. Classification of personnel responsible for making the decision to adopt the practice.

- | | |
|---------------------------|-------------------|
| 1. Director of Nursing | 5. Hospital board |
| 2. Nursing staff | 6. other |
| 3. Medical staff | |
| 4. Hospital administrator | |

VII. If the practice has been adopted, what reason would you give for adopting it?

- | | |
|---------------------------|--------------------------|
| 1. time saving | 5. safety of the patient |
| 2. labour saving | 6. administrative order |
| 3. money-saving | 7. other |
| 4. comfort of the patient | |

VIII. Look at the sources of information on the card and tell me the numbers of the sources of information that you used in relation to this practice.

15B

f. open visiting hours			g. elimination of 6:00 a.m. temperature		h. elimination drawsheets		i. colored dresses paediatrics	
VI	166	1 2 3 4 5 6	178	1 2 3 4 5 6	190	1 2 3 4 5 6	202	1 2 3 4 5 6
VII	167	1 2 3 4 5 6 7	179	1 2 3 4 5 6 7	191	1 2 3 4 5 6 7	203	1 2 3 4 5 6 7
VIII	168 169 170 171 172	 	180 181 182 183 184	 	192 193 194 195 196	 	204 205 206 207 208	

13.

INFORMATION ON NURSING PRACTICES

To complete the interview, I would like to ask some questions in relation to the nursing practices that are listed on the Innovations in Nursing card.

Are you using this practice? If yes, when was it first used in this hospital?

a. _____ b. _____ c. _____ d. _____ e. _____

If you are not using this practice, are you aware of it? If yes, when did you become aware of it?

a. _____ b. _____ c. _____ d. _____ e. _____

I. What steps have you taken in regard to this practice?

- | | | | |
|--------------|--------------|-------------|---------------|
| 1. not aware | 2. awareness | 3. interest | 4. evaluation |
| 5. trial | 6. adoption | | |

II. You became aware of this practice in _____. What was the length of time between awareness and the stage reached in the adoption process?

- | | | |
|-----------------------|----------------|----------------|
| 1. now aware | 5. three years | 9. seven years |
| 2. less than one year | 6. four years | 10. more than |
| 3. one | 7. five years | seven years |
| 4. two years | 8. six years | |

What reason would you give for spending more than two years trying to decide whether or not to use this practice?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

130

j. Disposables

i) drainage bottles	ii) syringes	iii) needles	iv) medicine cups	v) tooth- ettes
------------------------	--------------	--------------	----------------------	--------------------

I. 209	1	221	1	233	1	245	1	257	1
	2		2		2		2		2
	3		3		3		3		3
	4		4		4		4		4
	5		5		5		5		5
	6		6		6		6		6

II. 210	1	222	1	234	1	246	1	258	1
	2		2		2		2		2
	3		3		3		3		3
	4		4		4		4		4
	5		5		5		5		5
	6		6		6		6		6
	7		7		7		7		7
	8		8		8		8		8
	9		9		9		9		9
	10		10		10		10		10

14.

III. Classification of the reason for a delay of more than **two** years between awareness and the stage reached in regard to this practice.

- | | |
|-----------------------|------------------------------------|
| 1. relative advantage | 6. situational factor |
| 2. compatibility | 7. over-ruling of nursing decision |
| 3. complexity | 8. |
| 4. divisibility | 9. |
| 5. communicability | 10. |

IV. Which of the following describes your position in regard to this practice?

1. continuing with the adoption process
2. rejection
3. adoption
4. discontinuance

What reason would you give for rejecting or discontinuing this practice?

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____

V. Classification of the reason for rejecting or discontinuing the practice.

- | | |
|-----------------------|------------------------------------|
| 1. relative advantage | 6. situational factor |
| 2. compatability | 7. over-ruling of nursing decision |
| 3. complexity | 8. |
| 4. divisibility | 9. |
| 5. communicability | 10. |

If the practice has been adopted, who made the decision to adopt it?

- a. _____ b. _____ c. _____ d. _____ e. _____

14C

j. Disposables

i) drainage bottles	ii) syringes	iii) needles	iv) medicine cups	v) tooth- ettes
III. 211	223	235	247	259
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10
IV. 212	224	236	248	260
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
V. 213	225	237	249	261
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	5	5	5	5
6	6	6	6	6
7	7	7	7	7
8	8	8	8	8
9	9	9	9	9
10	10	10	10	10

15.

VI. Classification of personnel responsible for making the decision to adopt the practice.

- | | |
|---------------------------|-------------------|
| 1. Director of Nursing | 5. Hospital board |
| 2. Nursing staff | 6. other |
| 3. Medical staff | |
| 4. Hospital administrator | |

VII. If the practice has been adopted, what reason would you give for adopting it?

- | | |
|---------------------------|--------------------------|
| 1. time saving | 5. safety of the patient |
| 2. labour saving | 6. administrative order |
| 3. money-saving | 7. other |
| 4. comfort of the patient | |

VIII. Look at the sources of information on the card and tell me the numbers of the sources of information that you used in relation to this practice.

150

j. Disposables

i) drainage bottles			ii) syringes			iii) needles			iv) medicine cups			v) tooth- ettes		
VI	214	1 2 3 4 5 6	226	1 2 3 4 5 6	238	1 2 3 4 5 6	250	1 2 3 4 5 6	262	1 2 3 4 5 6				
VII	215	1 2 3 4 5 6 7	227	1 2 3 4 5 6 7	239	1 2 3 4 5 6 7	251	1 2 3 4 5 6 7	263	1 2 3 4 5 6 7				
VIII	216	_____	228	_____	240	_____	252	_____	264	_____				
	217	_____	229	_____	241	_____	253	_____	265	_____				
	218	_____	230	_____	242	_____	254	_____	266	_____				
	219	_____	231	_____	243	_____	255	_____	267	_____				
	220	_____	232	_____	244	_____	256	_____	268	_____				

FREQUENCY AND PERCENTAGE OF PARTICIPANTS WHO HAD ADOPTED INNOVATIONS,
BY ADOPTER CATEGORY

	Early Adopter Innovator	Early Majority	Late Majority	Delayed Adopter	Total Adoptions
Australian Lift	4 31%	3 10%	3 10%		10 12%
Mitt Restraints	4 31%	6 20%	3 10%		13 15%
'Closed Glove' Technique	10 77%	21 70%	10 34%	2 15%	43 50%
Sheepskin Pelts	13 100%	24 80%	23 80%	8 62%	68 80%
Open Visiting	7 54%	19 63%	16 48%	6 46%	48 56%
Elimination of 6 a. m. Temps	7 54%	20 67%	9 31%	2 15%	38 45%
Elimination of Drawsheets	4 31%	7 23%	3 10%	1 8%	15 18%
Colored Dresses with Children	3 23%	8 27%	4 14%	2 15%	17 20%
Disposable Syringes	9 70%	14 43%	10 34%	7 54%	40 47%
TOTALS	61	122	81	28	292

FREQUENCY AND PERCENTAGE OF PARTICIPANTS WHO HAD DISCONTINUED USE
OF THE INNOVATIONS, BY ADOPTER CATEGORY.

	Early Adopter Innovator	Early Majority	Late Majority	Delayed Adopter	Total Adoptions
Australian Lift					
Mitt Restraints					
'Closed Glove' Technique	1 8%		1 3%		2 2%
Sheepskin Pelts	1 8%	2 12%			3 4%
Open Visiting		1 6%		1 8%	2 2%
Elimination of 6 a.m. Temps					
Elimination of Drawsheets					
Colored Dresses with Children					
Disposable Syringes					
TOTALS	2	3	1	1	7

FREQUENCY AND PERCENTAGE OF PARTICIPANTS WHO WERE UNAWARE OF THE INNOVATIONS, BY ADOPTER CATEGORY

	Early Adopter Innovator	Early Majority	Late Majority	Delayed Adopter	Total Adoptions
Australian Lift	3 23%	16 53%	18 59%	12 92%	49 58%
Mitt Restraints		7 23%	17 59%	10 77%	34 40%
'Closed Glove' Technique		2 7%	8 28%	8 62%	18 21%
Sheepskin Pelts				1 8%	1 1%
Open Visiting				1 8%	1 1%
Elimination of 6 a.m. Temps		1 3%	2 5%	5 38%	8 9%
Elimination of Drawsheets		1 3%	3 10%	5 38%	9 11%
Colored Dresses with Children			4 14%	5 38%	9 11%
Disposable Syringes					
TOTALS	3	27	52	47	129

FREQUENCY AND PERCENTAGE OF PARTICIPANTS WHO HAD REJECTED THE INNOVATIONS, BY ADOPTER CATEGORY

	Early Adopter Innovator	Early Majority	Late Majority	Delayed Adopter	Total Adoptions
Australian Lift	1 8%			1 8%	2 2%
Mitt Restraints	1 8%			1 8%	2 2%
'Closed Glove' Technique		1 3%	4 14%	2 15%	7 8%
Sheepskin Pelts		2 7%	1 3%	3 23%	6 7%
Open Visiting	3 23%	3 10%	4 14%	2 15%	12 14%
Elimination of 6 a.m. Temps	1 8%	3 10%	5 21%	3 23%	12 14%
Elimination of Drawsheets					
Colored Dresses with Children	4 31%	6 20%	6 21%	3 23%	19 22%
Disposable Syringes		2 7%	1 3%	2 15%	5 6%
TOTALS	10	17	21	17	65