A REPORT ON THE DEVELOPMENT AND EVALUATION OF A SLIDE/TAPE PROGRAM ENTITLED MEDICINE AND ILLNESS: THE CAUSE OR THE CURE

HARRY IAN CARR

A REPORT ON THE DEVELOPMENT AND EVALUATION OF A SLIDE/TAPE PROGRAM ENTITLED MEDICINE AND ILLNESS: THE CAUSE OR THE CURE

by

Ian Carr

Submitted in partial fulfillment of
the requirements for the degree of
Master of Education

Division of Learning Resources
Faculty of Education
Memorial University of Newfoundland

February 1985

Abstract

Drug non-compliance, particularly among the elderly, has become a major concern with all professionals within the health care system. Many of the medical problems experienced by the elderly can be linked directly to drug non-compliance. Rather than drugs being an aid to recovery after illness or a stabilizer in the treatment of long term medical problems, they are frequently a prolonging factor, if not the primary factor in the cause of illness. Many of the elderly are multi-prescription and over-the-counter drug users. They are also recurring users of hospital beds. The reason for entry into hospital by the elderly is often the result of drug non-compliance. It is maintained by health professionals that information and education on drug use aimed directly at the elderly could reduce the number of elderly admitted to hospital because of drug non-compliance. Information and education programs would also enable the elderly to cut down on their drug consumption at home, resulting in a better state of health. At St. Clare's Mercy Hospital School of Nursing attempts were being made to eliminate the problem of drug non-compliance through pre-service training of student nurses and through cooperative efforts with other health professionals connected with the hospital. Because of the complexity of the problem, heavy workload, and constraints of time, the teaching staff at the school of nursing were

unable to thoroughly review the problem, and design, develop and implement a program appropriate for use by all health professionals associated directly with the elderly and their problem of drug non-compliance. As a solution to the problem an information program in the form of a slide tape presentation was developed. The terminal objective was to solve the problem of drug non-compliance and the elderly. Through implementation of this program the elderly were encouraged to inform and discuss their drug taking habits with their doctor, pharmacist and public health nurse, to ensure an awareness of good drug compliance. The slide tape presentation was produced in accordance with an instructional development model that consisted of four major steps. These steps included defining the problem, designing the presentation, evaluating the presentation, and developing a dissemination plan.

Acknowledgements

The developer would like to thank Dr. Mary Kennedy of the Division of Learning Resources, Memorial University for her invaluable advice during the development and evaluation of this project.

At St. Clare's Hospital, Joan Marie Aylward of the St. Clare's School of Nursing provided tremendous assistance during the research and planning stages. Also, appreciation is expressed to Judy Porter and Louise Nugent, together with the many health professionals in the city of St. John's who contributed much of their time and expertise.

The slide/tape presentation would not have been possible without the cooperation of Mr. & Mrs. Cornick, Dr. Paul Coolican, Mr. Basil Walsh and Mrs. Midge Faulkner to whom I extend my gratitude.

Table of Contents

Page

CHAPTER I

INTRODUCTION

Background to the Problem of Drug Non-compliance and the Elderly

An Overview

Canada is currently experiencing demographic shifts in the age of its population. This is not only influencing the provision of health care at the present time, but will significantly influence the provision of health care in the future.

The elderly, those over the age 65, are the nations' fastest growing minority. Presently they number approximately two million, or 8% of the total population. Statistics Canada has predicted a 50% increase in those over 65 by the year 1986, a 100% increase by 2001, and a 250% increase by 2031. The elderly by this time will represent 15% of the population, or nearly double the present component of the population classified as "geriatric" (Steinberg, 1981).

Since approximately 5% of our geriatric population resides in nursing homes, the rest are living in the community with various degrees of independence (Teare, 1982). Many have chronic illnesses for which they use medications on a long term basis. The ambulatory, elderly patient is an

excellent potential drug defaulter. A poor memory capacity fosters forgetfulness for the importance of drug therapy and regularly scheduled administration. Failing eyesight discourages reading the directions typed on the prescription vial and renders all pills appearing as the same size, shape and colour (Steinberg, 1978). Arthritic hands are unable to open child-resistant vials, further discouraging compliance and encouraging frustration. With multiple drugs on multiple schedules for multiple medical problems, even the best intentions to comply are thwarted.

It is generally recognized by the members of the medical profession that the more drugs people use the more likely they are to misuse medication and suffer adverse drug reactions. People who have chronic health disabilities need regular and long-term use of medication, which makes them vulnerable to drug complications and drug misuse. Sometimes prolonged use can lead to an insidious onset of drug dependency and subsequent abuse.

As people become older they undergo a number of physiological changes. The heart muscle becomes less vigorous, the bones more brittle and muscle strength decreases. The lungs become less elastic and there is reduced liver and kidney function. As a result of these changes there is increasing sensitivity to drugs as well as increased vulnerability to drug-induced disease. It is estimated by Wade and Finlayson (1983) that the risk of a

drug reaction in patients aged 60 to 70 is twice that of adults aged 30 to 40, and that the rate of adverse drug reactions for those aged 80 or more is three times as great as for those aged under 50. Therefore it is not surprising that about 10% of admissions to geriatric wards are due to iatrogenic disease (Bliss, 1981).

It has been suggested by Wade and Finlayson (1983) that many of the drugs taken by elderly people are either unnecessary or of doubtful value. They also estimate that 25% of drug therapy constitutes drug waste. They further suggest that the elderly are victims of modern drugs and the system by which medications are administered.

The reasons why there is such a high incidence of iatrogenic illness in the elderly are many and varied. They stem from the premise that the elderly tend to suffer from a greater number of diseases and so are given a variety of different medications. Seventy-five percent of those aged more than 75 receive some kind of drug. Two-thirds of these people receive between one and three drugs and the other third take between four and five drugs at the same time (Bliss, 1981).

A major problem of drug compliance is that of self-medication. The use and abuse, by the elderly, of certain drugs such as antacids, laxitives and analgesics can contribute to drug induced disease and to drug induced nutritional disorders (Roe, 1980). An example of a medicine

which is frequently used improperly by the elderly is the diuretic; while diuretics can be extremely useful they are also not without drawbacks. Kennedy (1981) points out that the most important of these is the depletion of the body's potassium, but also indicates that other effects can include a sodium imbalance, changes in glucose metabolism, uric acid excretion, electrolyte loss and dehydration. Obviously, it is important that anyone taking this potent medication should be aware of expected effects and the ways to avoid complications or side effects.

The problem of non-compliance may also be caused in part by unsuitable packaging of drugs and inadequate instructions (Morris & Halperin, 1979). The effectiveness and safety of prescribed medications depends on the patient correctly following the prescriber's instructions. This is linked in turn with the possible negative effect of drug packaging on patient compliance (Hussar, 1980). The use of child resistant containers, which can also prove to be elderly resistant, particularly to those suffering from arthritis and parkinsonism, is a contributory factor to non-compliance.

Once mediation is in the hands of the elderly there are other complications which add to the problem of non-compliance. Tearne, Alexander and Scales (1980) point out that the hoarding of drugs by old people is known to be common. This is seen by the elderly to be a preventive

measure against future illness as medications will be readily available. Problems may also occur because of incorrect storage, such as lack of refrigeration or exposure to heat or sunlight. This may cause certain drugs to lose their potency or undergo chemical change. Also problems arise if drugs are mixed or removed from their original containers.

The assumption that patients will take their medications according to instructions, and that they require no other information than what appears on the prescription label is another factor that contributes to drug non-compliance (Smith, 1977). Ultimately it is the elderly themselves who are responsible for administering prescribed, over-the-counter and social drugs at home. Just what they do with their medicines in the privacy of their own homes is out of direct control of the prescriber or provider of the drugs.

The Influence of Medication Regimens on Drug Compliance

The relationship between medication regimens and drug compliance among the elderly is one of the major unsolved therapeutic problems confronting health professionals today. Effective medical treatment of an elderly patient is based upon an accurate diagnosis and an optimum course of therapy, which usually involves a medication regimen.

The most ideal situation which presently exists in meeting these two criteria is the hospitalized patient. The

drug therapy of this patient is closely supervised and there is a fairly low incidence of medication errors (Smith, 1977). In sharp contrast, the ambulatory patient is given the responsibility for administering the medications which have been prescribed. Unfortunately the ambulatory patient is completely different from the supervised hospitalized patient in that there is considerable personal autonomy in the management of medications.

It was once believed that the physician could control the drugs that the ambulatory patient would consume, but recent studies show that neither the individual physician nor the individual pharmacist can control the amount of drugs the patient self administers (Lundin, 1983). The elderly person may take borrowed drugs, obtain medications from more than one physician, and have prescriptions filled at more than one pharmacy.

Because each person is a decision-making individual who has the prerogative of deciding which aspects of the therapeutic regimen to follow, the pharmacist or physician can not assume that the patient will take the prescribed medication according to the given instructions. The patient might need information other than what appears on the prescription label. Lack of understanding might lead to incorrect dosage, omission of medication, drugs being taken at an unsuitable time, misunderstanding the purpose of medication and use of medications from prior illness (Lundin, 1983).

Wallace and Watanabe (1977) point out that individuals over the age of 65 are more likely to be hospitalized as a result of drug-induced illness. Obviously patient non-compliance with medication regimens can result not in the expected therapeutic benefit but in hospitalization. The resulting cost in time, mental anguish and expense, not only to the hospitalized individual, but also to the physician, the pharmacist and the government is significant.

The Influence of the Doctor on Drug Compliance

It is the primary repsponsibility of the doctor to approach patient care from a holistic perspective. It is not sufficient to prescribe medication in isolation of the other factors that influence an individual's state of health.

Solomon and Weiner (1981) advocate five areas that should be given careful consideration by doctors when they address the medication needs of the elderly. These include:

1. A comprehensive physical, psychological and environmental assessment of the elderly individual to determine current problems, personal supports, the use of service delivery systems and ongoing medication patterns.

2. Treatment patterns that address the whole person rather than a disease entity.

3. Appropriate titration and/or prescription of drugs recognizing the physiology of the older individual.

4. The education of the elderly individual regarding dosage, potential side effects, instructions with foods and anticipated results of the medication regimen.

5. A follow up consultation through office, home visit or telephone contact to assure appropriate patterns of use.

How the doctor manages to achieve success in drug compliance with the patient is a matter of concern, and is dependent on how comprehensive the doctor/patient relationship actually is.

Hussar (1980) points out that the term "patient non-compliance" suggests that it is the patient who is at fault for inappropriate use of medications. Although this is often the case, it has become apparent that the responsibility for many cases of non-compliance should more appropriately be directed at the physician who fails to give the patient adequate instructions or to present the directions in a manner that is easily understood by the patient. This does not mean that all responsibility should be transferred to the doctor. Good drug compliance is a shared responsibility between doctor and patient.

There are however many factors that can influence what drugs are prescribed by the doctor. The major influencing factor is the doctor/patient relationship, and is based on good communication.

There appear to be two major barriers in the communication between doctor and patient. The first stems

from the doctor and is related to the medical terminology often used when talking with the patient. Blackwell (1978) points out that in the course of a physician's education, approximately 13,000 new words are learned; hence it is easy for the doctor to forget that this newly acquired language is not readily shared by others outside the medical profession. For a patient to understand what the doctor is saying, the doctor must ensure that the language level used is understood by the patient.

Hussar (1980) associates good communication with good drug compliance, linking the patient's need for psychological support with a compassionate manner. He has observed that patients are more inclined to comply with the instructions of a physician they know well and respect, and from whom they receive information and assurance about their illness and medications. Without this communication, based on trust, the patient is almost invariably in a state of anxiety during an interview with the doctor. Blackwell (1978) also indicates that since anxiety is increased by fear, it is important for the doctor not to use threatening admonitions about the potentially dire consequences of poor drug compliance. He points out that threats increase the patient's sense of vulnerability, and also increase the tendency to forget both the disease and the treatment. Expressions of concern seem more effective if they are given in the context of therapeutic optimism.

The interview between doctor and patient then, appears to be all important and is only the first step on the road to good drug compliance. However, cooperation is required from both parties, each needing to give and take information that is both meaningful and appropriate. Only by both parties taking the time to address each other's needs will good and meaningful communication be developed.

Daniels and Kochar (1979) indicate that the doctor who communicates interest, friendliness, warmth and empathy increases patient satisfaction, and may therefore improve compliance. By demonstrating these attributes the doctor can glean information and encourage the patient to respond accordingly. In order for the doctor to treat the patient holistically, information has to be exchanged and anxiety kept to a minimum. By understanding the patient's concern the doctor can prescribe action and medication.

The first few minutes of each interview between doctor and patient should be used for reviewing medications. The doctor should specifically question and listen for clues to problems such as side effects, forgetting medication, poor eating habits, or financial difficulties with acquiring medications. This is especially significant when the stated treatment goal is not being achieved.

It is important that the patient should be encouraged to bring along all medications to the interview so that the doctor can facilitate identification. Smith (1977) recognizes

the need for the patient to be aware of the dangers of self-medication, whether this is in the form of left over prescription drugs or newly acquired over-the-counter medications. Only by being aware of the current medication intake of the patient can the doctor safely and knowingly prescribe a new medication regimen.

Wade and Finlayson (1983) point out that if a patient is given a new drug regimen without taking into account the existing long-term treatment, drug interactions may result. Through close counselling, the doctor should promote the use of the smallest amount of drugs and the simplest daily regimen. Adverse drug reactions are more likely to occur when four or more drugs are taken concurrently (Shaw and Ophit, 1976). Discussions with the patient concerning medications should be very specific about what to do and how to do it, and should be reinforced with written instructions.

Research carried out by Smith (1977) clearly indicates that patient recall will gradually decrease over a period of time. The combination of both verbal and written instructions ensures that instructions previously explained during a doctor/patient interview cannot be forgotten, so written instructions should be provided as ongoing referral at home. Apart from the initial interview and the written instructions at home, the patient should be encouraged to contact the doctor if there is any cause for concern in the

medication regimen. Only by developing a close relationship of mutual trust and cooperation can the doctor and the elderly patient achieve their common goal of good drug compliance, resulting in better health for the patient and a sense of accomplishment for the doctor.

The Influence of the Pharmacist on Drug Compliance

In Canada, there is an emerging recognition of the pharmacist as an integral and valuable health professional. No longer is the pharmacist seen as an isolated dispenser of medications. The scope of service that a pharmacist can offer to a client is now being seen as quite comprehensive, and provides an important link in the health care of patients, particularly the elderly.

The pharmacist is in a unique position to help the elderly with their medications. The pharmacist is the last person to have contact with the individual drug user before the independent administration of the medications. Smith (1977) points out that the pharmacist is in an ideal position to reinforce the instructions of the physician, and to answer any questions the patient may have about the drug regimen. He goes on to say that the level of anxiety of most patients has decreased by the time they reach the pharmacy, and that they are in a more receptive state to learn about their drugs.

Since it is unlikely that the patient will have remembered all the medication instructions received from the

doctor, the pharmacist has an excellent opportunity to examine the patient's recall, to repeat the prescription instructions, and to reinforce the patient's faith in the prescribed therapy. In addition, the pharmacist is able to monitor closely the non-prescription medications the patient may be taking, and to evaluate any effect those drugs may have on the prescribed medication regimen.

Because the pharmacist is in the unique position with the elderly patient, it stands to reason that the pharmacist is the logical health professional to assume major responsibility in minimizing non-compliance (Hussar, 1980). Not only is the pharmacist important in the dispensing of drugs; for the elderly patient there is a unique consultation link provided. Watt (1977) observes that pharmacists are frequently involved in consultation regarding the patient's prescription and non-prescription medications.

As Teare (1982) suggests, the elderly should be advised to deal with only one pharmacy, so that they can become known by individual pharmacists. This will enable the pharmacist to keep a medication profile on the individual, not only of prescription medications but also any over-the-counter drugs that may be purchased at the same location. Lundin (1983) points out that it is not unusual for the elderly to use more than one doctor, therefore to have multiple similar or contradictory prescriptions. It is

unusual, however, for them to use more than one pharmacy. This trait enhances the pharmacist's position as a medication monitor, enabling consultation with the doctors concerned, making them aware of the elderly patient's habits or offering advice to the individual patient concerning the use of any and all drugs.

Pharmacists recognize that ambulatory senior citizens living independently in the community are often recipients of multiple prescription medications. Tearne, Alexander and Scales (1980) point out that the pharmacists have been slow to address the special needs of the elderly in respect to giving assistance and advice concerning their use of drugs. While multiple medications pose problems for many patients, the problems of the elderly are often complicated by failing vision, hearing and memory, arthritic hands, lack of familiarity with drug names and medical terms, and most significantly a reluctance to seek clarification of the advice given by the physician and pharmacist.

Pharmacists need to recognize the needs of the elderly for special attention, particularly their problems with child-proof containers, with cutting tablets in half, or with reading the small type on labels, especially the auxiliary labels. Covington, Porter and See (1979) insist that the elderly patient must be instructed on a level easily comprehended, should be encouraged to ask questions and comment on the instructions so that an assessment of

understanding can be made by the pharmacist. In recognition of the fact that the elderly tend to take many medications, Blackwell (1978) points out that this is a cause of concern and confusion for them. If many differing drugs have to be taken over the course of a day, the pharmacist can help by dispensing them where possible in different sizes, shapes, or colours. If the pharmacist can identify that multiple drugs either counteract or neutralize effects, or cause further medical complications, advice can be given and action taken.

The pharmacist is also in a good position to become aware of the limitations and special needs of the elderly, hence provide good counselling and assistance when it is required. The doctor aside, the pharmacist should encourage the elderly to ask questions about their medications, reiterate their right to know about any prescribed drugs, and emphasize that they should not be intimidated by busy health professionals.

Teare (1982) points out that the professional pharmacist has an important educational obligation to the elderly, a group which uses so many of the drugs that the pharmacist provides. If the pharmacist can help the elderly to ask questions about their drugs so they can use them more wisely and, more importantly, to be more responsible for their use, they will be rendering an effective professional service.

The Influence of the Public Health Nurse on Drug Compliance

The traditional approach to health care delivered by the physician and the pharmacist is today being supported by nurses who visit the elderly at home. The public health nurse is capable of following up the directions given by the doctor and the pharmacist in visits to the elderly, thus continuing patient education in a less formal setting.

Smith (1982) indicates that the numerous questions asked about medications by the elderly in the privacy of their own homes can have a favorable impact on drug compliance. As pointed out by Morris and Halperin (1979), written information provided by the doctor or pharmacist is useful in the education of the elderly to drug compliance, but improved compliance is not an assured outcome. However the intervention of a visiting nurse does have a positive impact on drug compliance for a number of reasons.

One of the most significant of these reasons is that communication is conducted in a setting that is free from the anxiety of a doctor's office or a pharmacist's counter. Also the public health nurse is able to spend more time and to see and assess the actual setting where the drugs are being consumed. Bowler, Morisky and Deeds (1980) point out that the problems associated with drug compliance stem from confusion about the specific therapy, difficulty incorporating it into a daily schedule, lack of family reinforcement and

support, and discouragement about the management of the regimen. The visiting nurse can contribute much toward alleviating these problems and guiding the elderly on a more positive path towards good drug compliance.

Hussar (1980) emphasizes that the approach used by the visiting nurse should be carefully conceived and should be one that is reassuring to the patient. The approach should not cause any unnecessary alarm by emphasizing adverse drug effects in an over-zealous discussion, and should be presented in a manner that is comprehensible. A disturbing visit from the nurse can actually contribute to non-compliance rather than prevent it.

Above all, Blackwell (1978) suggests that everything should be done to fit the drug taking regimen unobtrusively into the patient's daily routine. By visiting the actual location where the drugs are consumed, the nurse can not only assess the situation, but by working closely with the elderly individual, can work out an approach that will contribute to good drug compliance. By studying the daily routine and consulting with relations, social or peer support people, the nurse can help the elderly achieve a successful approach to self-management of their drugs.

Summary

In summary, non-compliance with drugs and related medication regimens by the elderly is a serious problem which presents a challenge to physicians, pharmacists and nurses. Indeed concern over this problem continues, as well as the search for an appropriate solution. Morris and Halperin (1979) identify the problem and suggest a possible solution by stating:

> The behaviour that health professionals call patient non-compliance is likely attributable to many factors. However, some aspects of this problem are certainly due to the failure of traditional modes of communication. Written instructions can serve to enhance the probability that important information can be presented, and will be attended to, understood, accepted, and recalled. However, proper communication by itself does not guarantee that behavioral change (compliance) will take place. It is evident that for certain drugs, patients prematurely discontinue the regimen simply because they do not know that it is important to continue treatment. With longer term therapy, effective communication of the regimen may be considered a necessary, but not a sufficient, condition of compliance. Additionally, interventions which provide social support, efficient feedback, and which are tailored to the patient's needs seem necessary. (Morris and Halperin, 1979, p. 51)

The Problem

Health professionals accept the fact that the elderly living outside institutions are administering their own medications. The potential for drug abuse resulting in

failing health and the need for hospitalization is of genuine concern and needs to be addressed.

For St. Clare's Mercy Hospital School of Nursing, the problems related to drug non-compliance among the elderly is a very basic one. Although patient education is available from the physician, pharmacist and public health nurse, optimum effectiveness with drug regimens has not been attained. This problem appears to be related to the elderly's lack of knowledge of drugs and their actions as well as their inability to ask the right questions. This can lead to medication non-compliance and possible hospitalization.

St. Clare's School of Nursing proposed an in-depth study of the problems of drug non-compliance, to result in a communications package suitable for use by health professionals in educating the elderly about drug compliance and relationships with health professionals.

CHAPTER II

NEEDS ASSESSMENT

Statement of Needs

According to the staff of St. Clare's Mercy Hospital School of Nursing, the problem of drug non-compliance is largely one of patient education. The information, the format of the presentation of information, and the actual person presenting the information are contributing factors in the compliance of the elderly with medications.

To analyse the problem specifically and to confirm the stated need, the developer conducted a study at St. Clare's Mercy Hospital and in the metropolitan area of St. John's (see Appendix A). A questionnaire was administered orally by the developer to various health professionals, including doctors and nursing staff of St. Clare's Mercy Hospital, general practitioners, pharmacists, and public health nurses. Each question allowed for a detailed individual response by the interviewee. The questions were formulated after an extensive review of the current available literature on drug non-compliance, and were designed to extract information in specific areas, while allowing for individual perspectives on drug non-compliance.

The results of the questionnaire demonstrated that all 12 health professionals interviewed shared a common

concern for drug compliance among the elderly. Responses varied about specific items depending on the health professional's roles in interactions with the elderly drug uses. However, all agreed that drug non-compliance was one of their major concerns in dealing with the public in general and the elderly in particular.

All health professionals indicated that drug non-compliance came to their attention too late for the application of a simple solution. Hospitalization and subsequent treatment for stabilization of the patient was the all too familiar route when dealing with drug non-compliance among the elderly, putting an undesired and costly strain on the already overloaded public health service. As one might expect, all the health professionals were interested in the problem and indicated full cooperation in the diagnosis and solution.

The responses of the health professionals indicated the need for the production of an informational package which would address the question of good drug compliance among the elderly. They suggested that particular attention should be focused on the specific areas of identification of drugs, liaison with health professionals, management of drugs and medication regimens, and adoption of a healthy lifestyle.

Such a program would enable the elderly drug user to develop an awareness of good drug use. It would also create an awareness of the help available through professionals in

the management of their drugs and medication regimens at home.

Alternative Solutions

There are three available alternatives in the development of an educational package. The developer may search out, procure and adopt existing materials as the basis for instruction. Existing materials can be adapted by restructuring content or presentation methods to suit intended purposes, or by incorporating material into a larger package. A completely original package, designed as a self-contained unit to meet the specific needs of the target audience can be developed.

Among these alternatives, the first two can be considered the most desirable in that they suggest a relatively small amount of investment of both time and money when compared with development and evaluation of an original package. But the unique needs of individuals in various educational settings frequently require that original materials be developed. To decide which course of action to follow the developer first had to examine and assess any existing materials related to the problem, and make decisions based on their applicability.

Survey of Existing Materials

The developer conducted a search of all existing materials in Newfoundland related to drug compliance and the elderly, finding six pamphlets and or small booklets; only two were readily available in Newfoundland. There were no audio-visual materials. The following is a description of each publication and an analysis of its applicability.

1. The Medicines Your Doctor Prescribes.
   Pharmaceutical Manufacturers Association of Canada.

This is a 16 page booklet available upon request from the Pharmaceutical Manufacturers Association of Canada, or the local drug store. Although a quality production in form and content, it is aimed at the general drug-taking public and not the elderly in particular. The type is rather small, prohibiting easy reading by those with less than good vision. The content is comprehensive, but the classification of content is not easy to categorise, as it uses an unusual listing designed to catch the reader's attention with a novel approach. The applicability of the booklet as a solution to the problem leaves much to be desired in addressing the needs of the elderly.

2. Let's Talk About Drugs.
   Health and Welfare Canada, 1982.

This bilingual pamphlet is available upon request from Health and Welfare Canada or the local drug store and is aimed at the adult drug user. The content is comprehensive but the pamphlet uses many technical terms, making it unsuitable for the elderly person. Little emphasis is placed on consulting with a health professional, instead it presents only general guidelines for drug consumption.

3. Your Medicine and How to Use It Safely. A Guide for Senior Citizens.
   Nova Scotia Pharmaceutical Society/Nova Scotia Commission on Drug Dependency, 1981.

This 24 page booklet is aimed at the elderly user. It uses large print to encourage and enable the senior citizen to read the content. The content is categorized into logical units, however the booklet is lengthy and occasionally uses highly technical terms. Because of the length and the use of technical language it is unsuitable for dissemination to the senior citizen. The booklet is not available locally and must be ordered from Nova Scotia.

4. One Two Three Steps to the Safe Use of Medicines.
Aware, Saskatchewan Health.

This one page pamphlet is the first of three publications by Saskatchewan Health under their Aware promotions. It focuses on three aspects of the safe use of medicines, namely talking with the doctor, talking with the pharmacist and taking medicine as directed. Although not directed at the elderly drug user it is appropriate. The language level used is easy to understand and the message is presented in a reasonable type size. However it is suitable only as an introduction to drug use, and it does not address many of the concerns of the senior citizen.

5. Drugs and Seniors.
Aware, Saskatchewan Health.

This one page pamphlet is a quality production in terms of presentation and content. Aimed specifically at the elderly drug user, it outlines the questions senior citizens should ask about their drugs and how to use them.

6. Using Medicine Safely.
Aware, Saskatchewan Health.

This 12-page booklet is the best publication on the drug-taking needs of the elderly. The content and layout do much in addressing the needs of the elderly drug user. The breakdown of content into easily distinguishable units, the suitable language and appropriate illustrations do much to encourage the elderly to look at and understand this publication.

None of the Aware publications are readily available locally; they must be ordered from Saskatchewan. Hence, none of the Aware publications were deemed suitable for fully meeting the needs of the elderly drug user here in Newfoundland.

Decision to Produce Materials

The existing materials were deemed inappropriate for use for a number of reasons. The booklets fell short of identifying all the concerns related to drug compliance. Problems of dissemination due to availability and the lack of a distribution network, led the developer to reject the notion of adopting existing materials. Because of these aforementioned aspects, plus the fact that a non-profit method of presentation was envisaged by the developer and St. Clare's School of Nursing, it was decided not to include any of these materials in the final package, as they could not readily be adopted. Also the aspects of being able to present the concepts of drug compliance not only to individuals, but also to groups led the developer to the decision to produce an original package for a specific audience.

Although requiring more time, effort and financial commitment than adopting or adapting the existing materials it was decided to embark on the production of an original audio-visual presentation as the best means of addressing

the concerns of health professionals towards drug compliance. Such a package would be appropriate for individual or group viewing and would present to the elderly drug user the necessary and appropriate information for good drug compliance, together with where to find the necessary assistance, guidance and help in becoming an independent good drug complier.

Educational technologists suggest that in order for instructional materials to be effective they should follow an established developmental process. Most developmental plans are similar and comprise the four basic stages of a systems approach; these include defining, designing, developing and dissemination. The developer chose the four D model by Thiagarajan, Semmel and Semmel (1974) (see Appendix B) as being most appropriate for this project.

CHAPTER III

LEARNER ANALYSIS

Primary Audience

Approximately 91% of the elderly are well enough to live at home in the community. In the home environment the ultimate responsibility for taking drugs as prescribed lies outside the organised health care system. The ambulatory older person, whether living alone or with a spouse or family member is a potential drug defaulter for many reasons. Coping with many drugs, different regimens requiring administration throughout the day, and multiple medical problems which are not fully understood, remembered or accepted, are significant factors discouraging compliance. Added problems stem from physical disabilities such as failing eyesight and arthritic hands, as well as worrying about the aging process itself. This is often reflected and expressed through a state of anxiety on the behalf of the individual (Solomon & Weiner, 1981).

Blackwell (1978) points out that research indicates that there is no typical drug defaulter. This concept has been expanded upon by Hussar (1980) who, after many studies was unable to demonstrate the relationship between age and non-compliance and such variables as education, occupation, socioeconomic status, personality factors, and the number,

types, and severity of illnesses. He also noted that although certain patterns have emerged in some studies, the results, in general, have been inconsistent, and it continues to be difficult to identify which patients are most likely to be non-compliant. The problem is compounded by the elderly's use of more drugs, which in turn make the problem more serious.

The elderly pose a special problem in non-compliance in that 80% of people over 65 suffer from one or more chronic diseases or conditions, compared with only 40% of those under 65 years of age (Solomon & Weiner, 1981). The elderly account for 30% of Canada's health care expenditures, and 25% of the nation's drug consumption (Lundin, 1983). These statistics, together with research findings indicating that 30% of patients are non-compliant (Smith, 1977), delineate the scope of the problem. It is potentially a large financial drain on the health care system, as well as a significant financial and psychological drain on the elderly themselves.

Regardless of the type of illness or condition, compliance seems to be influenced by four major factors: the relationship the elderly individual has with the doctor, pharmacist or public health nurse (Covington, Porter and See, 1979); the ability to recall, or willingness to comply with the medication regimen (Blackwell, 1978); the amount of support in the supervision of drug therapy from family members or others who take an interest (Daniels & Kochar, 1979); how

well the elderly individual understands the drug being used and the medication regimen that is prescribed (Bliss, 1981).

Lundin (1983) has evaluated the medication-taking behavior of the elderly: identified behaviors indicate that a solution to the problem of non-compliance will rarely involve a single factor. The results are summarized as follows:

- Failing to take prescribed medications due to forgetfulness, inability to comprehend directions, read labels or open childproof caps.
- Taking medication according to size, colour, availability, impressive appearance.
- Taking borrowed medicine, obtaining medications from more than one pharmacy, obtaining prescriptions from more than one doctor.
- Taking medications at the wrong time, doubling doses, self medicating with over-the-counter drugs or leftover prescription drugs.
- Taking the wrong dosage or dosages at frequencies other than as prescribed.
- Discontinuing medication prematurely because there is improvement, or at least no discernable change, in the patient's condition.

- Taking medication that is outdated, by the wrong route or therapeutically contraindicated medications.
- Not understanding or misunderstanding the management of medications and their expected results.
- Taking medications inappropriately with foods or fluids and chewing or swallowing inappropriately.
- Taking medications for the wrong purpose and concealing non-compliance from health professionals.
- Taking complex regimen of medications and inappropriately mixing over-the-counter drugs with prescription drugs.
- Not perceiving non-compliance, failing to follow directions and over-the-counter drugs as being a threat to their medical situations.
- Failing to follow the drug regimen because of dissatisfaction with the doctor, pharmacist or the taste of medications.
- Failing to fill prescription because of lack of money, transportation and self esteem.
- Failing to comprehend the effect of drugs because of storing in inappropriate areas, consumption of alcohol and radically changing smoking habits.

An examination of the reasons for these behaviors is equally important and necessary, even though reasons for misuse and associated behaviors are sometimes the same, or from the same origin. Lundin (1983) indicates a number of reasons the elderly are non-compliant with medical regimens. They are as follows:

- Complex interplay of sociocultural factors including ideas and attitudes and family and friends influence on taking drugs.
- Previous experience concerning side effects and/or ineffectiveness of medication.
- Relationship with doctor and/or pharmacist.
- Complexity of drug regimen leading to increasing non-compliance.
- Problems of the aging process including forgetfulness, inability to follow directions and age-old misbeliefs.
- Lack of knowledge of what constitutes a drug, leading to addition or duplication.
- Problems resulting from duplication of prescription medications, failure to follow directions or open containers, misunderstanding of formulation of pharmaceuticals.

- Communication problems with the doctor or pharmacist due to time constraints, lack of instructions and directions.
- Lack of money or transportation to secure medications.
- Failing to take medications because of self-diagnosis, taste or loss of drugs.
- Lack of respect for medications resulting in the taking of over-the-counter drugs and failing to follow medication directions.
- Influence of media advertising.
- Loss of self esteem due to side effects, attitudes to health and medication therapy.

It seems obvious from the extensive research by Lundin and associates in the health profession, that patient non-compliance has become one of the best documented, but least understood areas of concern in the medical profession. Because of the numerous interactions of behavioral and attitudinal reasons for not complying with medical regimens, the elderly drug user poses a serious challenge to health professionals today.

Kennedy (1978) points out that attitudes are the thought and feeling processes by which individuals apply their value systems to specific situations. These attitudes

are influenced by the reward system and can be monitored by the way the individual responds to outside influences, whether, in the case of drug compliance, they be health professionals or the effect of the drugs themselves.

Unlike children whose view to learning is one of postponed application and whose activity is generally subject centred (Sorensen, 1981), adults tend to be motivated by the pressure of a current situation and consequently take a problem solving approach to learning. Vischer (1980) indicates that despite all the encroachments of old age, human faculties towards learning are preserved so long as the brain is not worn out or actually diseased.

Because self-preservation is a principal in life (Kennedy, 1978) the elderly will strive to avoid situations that bring discomfort. Provided they are given sufficient feedback regarding their condition and medications and that the effect is what is desired, there should be every reason to assume that when a similar condition presents itself the individual will respond with the desired appropriate behavior. Whatever this appropriate behavior manifests into, Lieberman and Tobin (1983) believe it to be related to hope. The hope of a change for the better and that individual effort is likely to make some difference in the outcome. This is of particular concern when this is a realization of a situation that involves suffering or even the threat of death. This can be encouraged by an early diagnosis from the physician.

Considerable time, energy, and expense have often gone into the diagnosis of a patient's illness and the subsequent development of the related treatment program. Yet the goals of therapy will not be reached unless the patient understands, accepts and follows the instructions for use of the drugs prescribed.

Certain approaches that involve a significantly increased commitment of time on the part of the doctors, pharmacists and nurses may be viewed by some as desirable but impractical. These are not impractical when compared with the commitment of time and expense that is usually wasted as a result of non-compliance, be it further consultation or hospitalization.

It is mandatory then to offer every assistance to the ambulatory elderly drug users, to enable them to remain an ambulatory part of society. The other alternative is to willingly accept the consequences of drug non-compliance and commit the elderly drug user to hospital, removing them from their place in the community, and placing a further burden on the health system.

Secondary Audiences

Although the instructional package was designed primarily for the elderly, Daniels and Kochar (1979) indicate that non-compliance is prevalent on all social and

demographic levels of society.

Statistics Canada's forecast of an increased percentage of the elderly in society over the next few decades indicates that the problem of drug non-compliance will only increase if action is not taken. Hence, any instructional package on drug compliance directed at the elderly might also be of benefit to the general public, in that it could influence people to develop good drug taking attitudes and habits before they become members of the elderly population.

Another group to be considered as audience members are those professionals in the health care system who are directly involved with the elderly drug user. Although most of these professionals are aware of the problems of non-compliance, it might be of benefit to understand the roles that colleagues play in fostering drug compliance. Apart from the experienced practicing health professionals, the student doctors, pharmacists, and nurses should be considered. Understanding their professional associates, understanding the problems associated with non-compliance among the elderly, and being aware of the solutions should benefit everyone concerned.

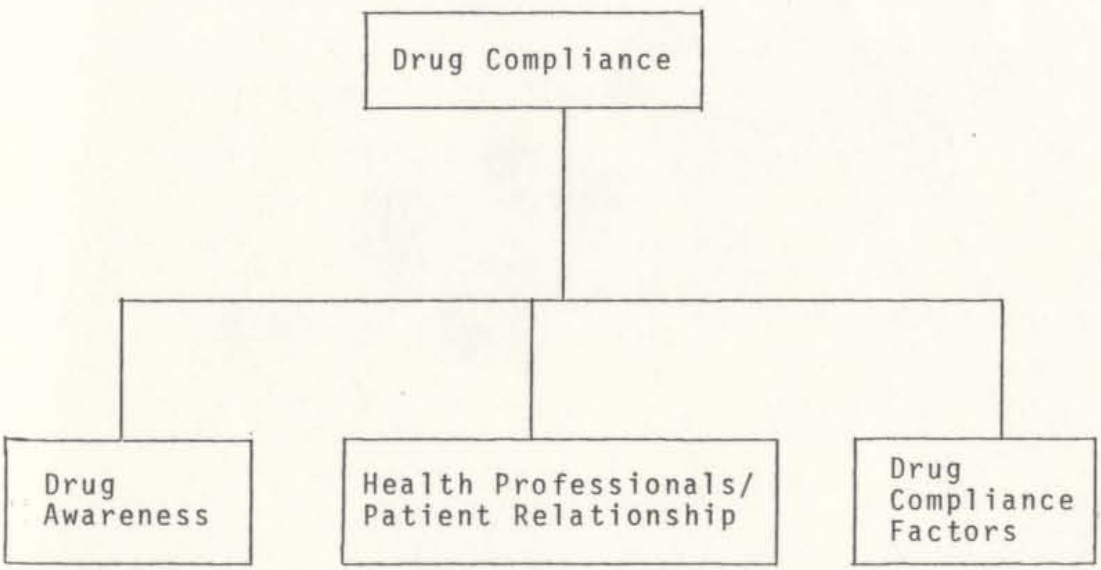
CHAPTER IV

CONCEPT ANALYSIS

The development of the instructional package included the preparation of a concept analysis. This was done to delineate precisely what information would be included in the package, and the order in which the information would be presented.

The concept analysis done in hierarchical order, includes the critical attributes of the concepts. These critical attributes function as keys to the presentation of information in the package.

Concept Analysis



Critical Attributes

Drug Awareness

- Types of drugs
- Use of drugs
- Responsibility for medicating
- Side effects

Health Professionals/Patient Relationship

- Communicating re: medical problems
- Communicating re: current drug use
- Communicating re: current lifestyle

Drug Compliance Factors

- Understanding compliance
- Drug safety
- Lifestyle
- Seeking assistance

Enabling Objectives

Drug Awareness

- Drugs are sometimes necessary to maintain or improve health.
- Drugs used correctly will improve health.
- Drugs used incorrectly will be harmful to health.
- Drugs used correctly means completing the full course of treatment.
- Drugs should be taken at appropriate time and setting.
- There are three types of drugs.
- All types of drugs change the way we feel.
- Drug administration is the responsibility of the nurse for the patient in a hospital or nursing home.
- Drug administration is the responsibility of the individual for the ambulatory patient at home.
- Drugs sometimes cause side effects.
- Side effects are signals - unpleasant or unexpected feelings resulting from the drugs.
- Side effects should be reported to the physician.

Health Professionals/ Patient Relationship

- Appropriate health professionals should be informed of patients medical problems.

- Health professionals should be informed of patients current drug use.

- Health professionals should be informed of patients current lifestyle.

Drug Compliance Factors

- Drug compliance is dependent on getting assistance when needed, from appropriate health professionals.
- Patients should use only one doctor and pharmacist.
- Over-the-counter drug selection can be aided by the pharmacist.
- Drug compliance means following a set of directions or routine, and has benefits.
- Prescription instructions/containers should be available in different forms for elderly.
- Sharing drugs is dangerous.
- Food and drink can interact with drugs.
- Never mix drugs and alcohol.
- Drugs should be stored in an appropriate place.
- Discard all old drugs safely.
- Organizing a drug regimen helps compliance.
- Involving friends, family, neighbours helps.
- Healthy lifestyle is important for good health.

Performance Objectives

Given an instructional package on drug non-compliance, the learners will, with accuracy, demonstrate that they have attained the following performance objectives:

1. Given the terms prescription, over-the-counter, and social drugs, the learners will name one example of each.

2. Given the following statements, the learners will respond positively by denoting the agree category.
   - Medication is sometimes necessary to maintain or improve health.
   - Drugs change the way we feel.
   - It is the responsibility of the individual to take medication correctly.

3. Given the following phrases, the learners will check those important in relation to communication with the doctor, pharmacist and public health nurse.
   - Drugs currently using.
   - My daily eating habits.
   - Symptoms of my illness.
   - My day to day activities.
   - My daily drinking habits.
   - Side effects of drugs I am experiencing.
   - What over-the-counter drugs I am using.

- Failure to complete a full course.
- Asking for written instructions.
- How I remember to take my drugs.
- How I store my drugs.

4. Given the following phrases, the learners will check off those contributing to good drug management:
   - Taking medication on time.
   - Taking the prescribed amount.
   - Taking medication with the right fluids.
   - Completing a full course.
   - Using only one doctor.
   - Using only one pharmacist.
   - Being able to open the drug container easily.
   - Not sharing other peoples drugs.
   - Never mixing drugs with alcohol.
   - Disposing of old medications.

5. Given the following phrases, the learners will check those denoted attributes of a healthy lifestyle:
   - Eating a good well balanced diet.
   - Taking regular exercise.
   - Having a good nights sleep.

CHAPTER V

RATIONALE FOR CHOICE OF MEDIA

An investigation of the literature related to instructional media delineates the application of the different media to the learning process. As a means of deciding which instructional medium would best suit the needs of the health professional presenting an instructional package to the elderly drug user, the developer looked first to the findings and recommendations of the health professionals whose concern was drug non-compliance among the elderly.

Hussar (1980), indicates that health professionals give careful consideration to the way in which information concerning drug compliance is presented to the elderly individual. He also points out that the use of audiovisual aids are of considerable value in certain situations, as they may assist the elderly patient in visualizing the nature of certain illnesses associated with medication regimens.

In regard to drug defaulting, Smith (1977) recognizes that it is often not a question of obeying a drug regimen but a question of understanding the importance of the regimen, so that the elderly drug users can participate maximally in their drug therapy. Kennedy (1981) reiterates this stance and points out that patient teaching is no longer a luxury

but a necessity for safe and effective health care.

However, understanding is insufficient to assure that the elderly will comply with instructions. Gaines (1979) states that it is of vital importance that the elderly be able to integrate these new ideas into their own current set of values and actions. She further suggests that the selection of an instructional medium used in elderly patient teaching should be made with an awareness of the following issues.

1. Will the patient be able to hear well enough during a group presentation in a large room?
2. Will the visual aids be large enough for the patient to see accurately?
3. Will the instructor be using communication skills familiar to, and understood by the elderly patient?
4. Will the content of the instructional package be given too slowly or too quickly for the elderly patient to comprehend and retain?
5. Will the individual concepts of the total instructional package be given enough emphasis so that the elderly patient will think it important to remember them?

Blackwell (1978) states that there is increasing use of audiovisual materials by educators who are not health professionals. He indicates that learning opportunities can

be provided through patient education centres, such as the discharge unit of a hospital or a doctor's waiting room. Thus he suggests an audiovisual package which can be readily operated by any individual.

Those in the field of educational technology have addressed the problem of media selection extensively. Although media selection is only one aspect in an instructional package design, it has been delineated in numerous writings of media specialists. The more traditional approach involves the justification of media by reference to a number of charts or taxonomy cubes where specific media attributes are related to the instructional goals, content, and setting, enabling the selection of the best possible medium. Prominent media specialists in the area of educational technology are examined and summarized by Stolovitch (1976), who concludes that there are six essential factors in media selection strategies, as follows:

1. Selection of media should be made systematically.
2. Selection should take into account learner characteristics.
3. Selection should take into account task characteristics.
4. Selection should take into account the pragmatic constraints of the producer.
5. Selection should take into account the pragmatic constraints of the consumer.

6. Selection should be based on the optimal combination of media attributes which match the requirements of the instructional objectives. (p. 51)

He also indicates that the characteristics and specific requirements of four main areas should have a determining effect on the selection of media. These four main areas include the learner, the task to be completed, production capabilities, and plans for dissemination. Once these have been determined, he suggests that media attributes can then be matched up for a final optical selection. A chart is used for completion of this task (See Appendix C).

Romiszowski (1974) suggests two approaches that can be used in selecting media. The first is similar to the previous method outlined by Stolovitch, but suggests that five main points should be considered as follows:

1. The choice of a particular instructional model will often dictate, or at least limit, the choice of media to be selected.

2. The type of learning task facing the intended audience will eventually influence the choice of media.

3. The characteristics of the audience will directly influence the media to be chosen.

4. The practical constraints, both administrative and economic, may limit the selection process.

5. The acceptance of the choice of media by the presenter will definitely affect the success of the presentation.

His second approach is novel. It follows a "selection by rejection" technique pioneered by Briggs (1970). Here the procedures involved in media selection are telescoped into an "If - Then" chart (See Appendix D). The chart illustrates how to eliminate media due to their unsuitability to the learning process. However, Romiszowski does warn of the problem of using any charts in that they tend to be too rigid, as the individual elements have been condensed, or telescoped, to fit the designers procedure.

A medium communicates or conveys a message. It follows that the first choice of a medium should be the one that most effectively conveys the essential stimulus attributes to the learner. Stolovitch and Thiagarajan (1975) labelled this approach an "inverted approach" as it begins with the identification of a suitable media combination with the maximum number of attributes, for the minimum financial outlay.

The rationale for this inverted approach stems from the point of view that, for practical purposes, any media combination is as good as any other in terms of instructional effectiveness. This point of view results from comparison studies carried out by a number of educational technologists, whose findings show "no significant difference". These findings are perhaps best summarised and expressed by Gagne (1970) who states:

> Most media of communication can readily perform most instructional functions. They can be performed by pictures, by printed language, by auditory language, or by a combination of media. So far as learning is concerned, the medium is not the message. No single medium possesses properties which are uniquely adapted to perform one or a combination of instructional functions. Instead they all perform some of these functions well, and some not so well. (p. 47)

In many cases of instructional development, and certainly in this case, the rationale for selection of media has much of its basis in a number of practical considerations. Indeed a major factor was the expressed wishes of the organization requesting the presentation, St. Clare's Mercy Hospital School of Nursing. The organization expressed a preference for the slide-tape medium. Independent of the organization's preference, additional factors supported the selection of the slide-tape medium. By referring to a chart for media selection (See Appendix E), it is apparent that a combination of slide, audio tape and print encompasses many media attributes, with the exception of motion and three dimensionality. In this particular project, the absence of these two attributes is not critical.

Being aware of the characteristics of the intended audience is another factor leading to the selection of media. A slide-tape presentation is a well-established form of communication, hence no problems of acceptance was envisaged by the developer. In addition, the delivery of

the presentation could be tailored to individual needs. Although supplied with an automatic silent advance signal, the package also contains a manual audible advance tape, enabling the presenter to control the speed of delivery. Easy random access of individual slides or groups of slides is also readily attained, allowing for review, should there be any queries after viewing the whole program or part of the program.

In terms of physical delivery to the elderly drug user, a slide-tape presentation has many advantages. Due to the technological developments in the hardware used to present a slide-tape production, it is possible to internally project the slide image onto a screen which is an integral part of the projector. This has the advantage of being compatible to a well lit room and/or individual or small group viewing. Coupled with a built in cassette recorder, automatic advance mechanism and adaptability for projection to a large screen this type of presentation is very versatile. Another factor is the need to transport the instructional package to the elderly; the slide-tape medium is both small and lightweight. Ease of delivery would not be possible with other audio-visual formats, such as television and video cassette recorders.

Of all media, the slide-tape medium can possibly receive much wider dissemination than any other form. This is an important factor when considering province-wide

distribution. Slide-tape presentations are such accepted forms of technology that no individual or organisation should have difficulty acquiring the necessity hardware for viewing, when presented with the slide-tape package through the mail.

This particular form of media presentation also has the advantage of relative low cost and simple production. The equipment needed to produce a slide-tape package is readily available, and as slides can be easily re-arranged or replaced if needed, the slide-tape presentation emerges as an optimal instructional vehicle. It meets the requirements of both health professional and educational technologist alike.

As a result of the media selection procedures undertaken by the developer, the package was produced as a slide-tape production accompanied by a written script. The developer used the photographic facilities at St. Clare's Mercy Hospital School of Nursing and the Division of Learning Resources, Faculty of Education, Memorial University of Newfoundland. The script was recorded by the School of Broadcast Division, Department of Education, in St. John's, Newfoundland.

CHAPTER VI

DEVELOPMENT PROCEDURES AND FORMATIVE EVALUATION

The slide-tape presentation was designed with the framework of an established instructional development plan. Having completed the initial planning procedures of needs assessment, audience analysis, and concept analysis, the developer began the production phase, which included scripting, storyboarding, graphics, photography, taping and evaluation.

Throughout all the stages of pre-production, the developer consulted with the various health professionals who were concerned with drug non-compliance and the elderly. Joan Marie Aylward, R.N., B.N., instructor at the St. Clare's Mercy Hospital School of Nursing, was responsible for the project. She served as content expert throughout the process of planning and development.

On completion of the concept analysis and objectives, the developer consulted with Mrs. Aylward to ensure that the necessary and appropriate content was included, and to determine how well the stated objectives reflected the demonstrated need. Mrs. Aylward clarified certain points of drug non-compliance and recommended that there be no special mention of St. Clare's Mercy Hospital, or any other recognised health care facility in the province. It was felt that identification with specific health care

facilities would be detrimental to acceptance by various groups in many and diverse settings. These recommendations were accepted, as the project was seen to be applicable for province-wide distribution.

Following completion of the initial draft of the script and suggestions for accompanying visuals, the developer consulted several other health professionals who possessed specific expertise in the area of drug compliance. All were asked to verify the script and suggest any alterations they deemed to be appropriate. (See Appendix F for directions to professionals and Appendix G for the final script.)

Dora Braffet, librarian and media specialist at St. Clare's Mercy Hospital, School of Nursing, indicated that the script was well thought-out and that the language level was appropriate for an audience of varied educational levels. She particularly approved of the equal representation of both sexes as this avoided stereotyping and undue emphasis of either sex.

Paul Coolican, M.D., approved of the way the concepts and objectives were integrated into the script, but suggested a new introduction to inform the audience more specifically of the nature and purpose of the production.

James O'Mara, Secretary Registrar of the Pharmaceutical Association of Newfoundland, approved of the sequence in which the concepts were introduced, reinforcing the developer's intentions to integrate accompanying graphic slides.

Basil Walsh, pharmacist, suggested that the section on identifying the different types of drugs be repositioned near the end of the tape. However, all other health professionals indicated that the initial sequencing was appropriate, so Mr. Walsh's suggestion was not acted upon.

Ruth Keilley, Head of the Public Health Nurses Division in St. John's, and Judy Blackley, Head of the Victorian Order of Nurses in St. John's both indicated their approval of the script and suggested only minor changes in wording, as did the other health professionals who were consulted.

Upon receipt of the modified script, the developer considered the recommended changes and adjusted the script accordingly; the only major change being that suggested by Paul Coolican, M.D.

CHAPTER VII

SUMMATIVE EVALUATION

Evaluation of the slide-tape presentation was carried out by a variety of individuals in a variety of settings and was approached from two perspectives; the quality of the presentation and the effectiveness of the presentation. Evaluation of the quality of the presentation was conducted primarily by health professionals, the users, and the effectiveness of the presentation by the elderly, the audience.

User Appraisal

Emphasis was given to health professionals who would be directly involved in presenting the slide-tape presentation to the elderly as they were envisaged to be the ones who could most reliably indicate the impact of the program. Although some elderly were involved in the evaluation, it was decided to concentrate upon the views and opinions of the health professionals as being the most valid responses. Indications by health professionals in the formative evaluation stage were that the elderly in general appreciate any and all attention given to them, rendering them biased and unobjective. As the health professionals would be using this slide-tape presentation to combat the

problems of non-compliance among the elderly, and would be looking for a communication vehicle to improve on the problem, it was decided that their opinions would be given priority. However upon completion of the evaluation there was found to be no noticeable difference in the response from elderly members of the public and members of the health profession.

Each individual who viewed the presentation was asked to complete an evaluation form (See Appendix H) and respond to a number of questions. The questionnaire was designed to elicit a variety of information regarding the quality of the presentation, and its appropriateness for use in a variety of settings to address the problems of drug non-compliance among the elderly. Some individuals viewed the presentation alone, some in couples and others in groups up to eighteen. This occurred due to the nature of individuals consulted and occurred naturally, however it did simulate the way in which this program would be presented to the elderly members of the public. In this way the appropriateness of the media used was also able to be evaluated. The following is a summary of those individuals who took part in the evaluation process, together with their association with drug non-compliance.

Individual	Age-range	Number consulted
Elderly	65 and above	8
Nurse	22-50	31
Doctor	31-50	2
Pharmacist	22-50	5
		46 Total

Of course such an informal questionnaire cannot be analysed statistically, but it can provide a valuable insight into individual impressions, thus helping to reveal the specific strengths and weaknesses of the presentation.

Results

The questionnaire was designed to elicit information by two different means. One was a forced response to 15 questions ranging from cognitive elements to aesthetics. This was recorded on a four point scale, thus eliminating a non-committed response. The second form of questioning was of the open ended type, allowing a more individual response and enabling the interviewee to comment on any general or individual aspect of the production.

The questions in the forced response section varied between a positive and negative statement, again forcing the interviewee to carefully select the appropriate response. This ensured that the responding individual did not simply check down one column or one side of the scale. No negative

responses to the presentation were recorded, however there was a variety of responses as to the degree to which they either agreed or disagreed to individual statements.

The responses to the open ended questions were more varied. They ranged from no response at all, or an indication that no changes should be made, to a detailed suggestion. Only two individuals objected to the appropriateness of a slide. Slide number 31 shows the name of a particular pharmacy and this was the slide in question. The two respondents suggested eliminating the slide, but as this slide introduces the section of the elderly person's involvement with the pharmacist and all pharmacies display the company name, and that none of the other respondents objected to the slide, the developer decided to leave slide number 31 as originally photographed.

All individuals questioned responded favourably to question number seven concerning the accompanying script. The following comment is typical:

> Useful for review, particularly in the one-to-one situation where the elderly person may have a question about some part of the presentation that is of particular interest.

Also, the final question indicated that the presentation was generally well received and filled an immediate need by many health professionals. A summary of many of these comments is contained in the following response.

> In my opinion the slide-tape presentation is long overdue. It is very appropriate in many settings and its usefulness is unlimited.

Analysis of Results and Conclusion

An analysis of the data from the evaluation form indicates that it was well received by all concerned, and that it would fill a need experienced by many health professionals today.

Although the sample was relatively small, all responded in a positive manner indicating that they considered the presentation successful in meeting its objectives. This assessment appears to have been substantiated by the opinions of a large number of individuals throughout the province who have viewed the presentation since that time.

Audience Appraisal

Evaluation of the effectiveness of the slide-tape presentation was carried out by ten elderly persons. Evaluation was performed in three group settings to simulate future use of the package. Two individuals viewed the presentation separately, one couple took the evaluation together, and the final testing was performed on a group of six.

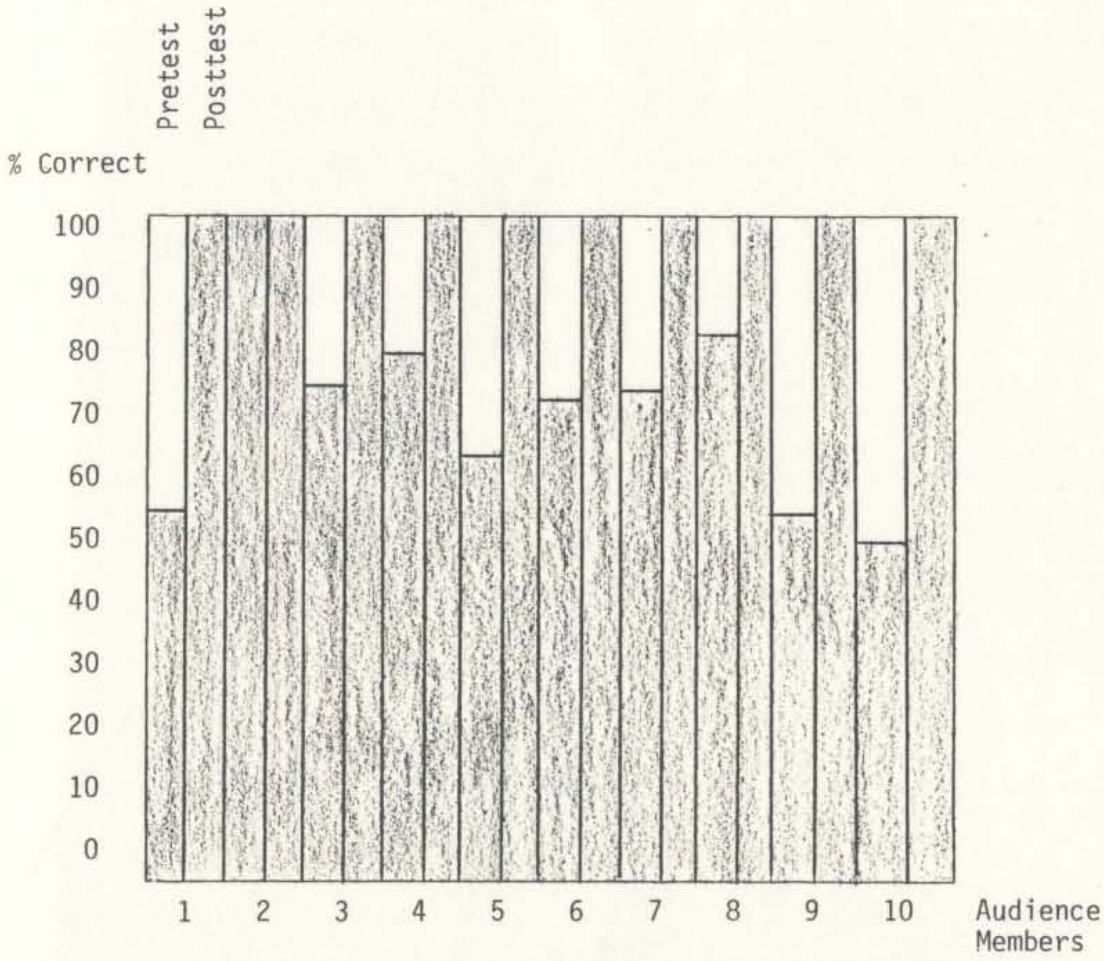
Each individual who viewed the presentation was asked to complete an evaluation form (See Appendix I) and respond to a number of questions. The questionnaire was designed to elicit a variety of information regarding the current knowledge and attitudes of the audience to various aspects of drug compliance. The same evaluation form was administered prior to and immediately following the presentation so that a direct comparison could be seen as to the effectiveness of the slide-tape production.

Results

Only the first section required an individual written response; the remainder of the questionnaire was designed so that the correct response was always the "Agree" or "Important" category. By using the same response sheet twice, the developer could determine the direct effectiveness of the presentation.

Each positive response was given a value of one credit; other responses were weighted as zero (For responses by question see Appendix J). The following graph shows individual responses to both questionnaires.

Graph Showing Audience Improvement



Except for one person who had a perfect score on both tests, every other individual showed an overall improvement. The remaining nine participants achieved perfect scores on the posttest, indicating the effectiveness of the package in adequately presenting information relating to good drug compliance. Verbal statements from some of the group however indicated that some attitudes or beliefs are difficult to overcome.

Financial concerns relating to the cost of medications was one major area of concern. Individuals stated that although they recognised the importance of using only one pharmacy, they might not always do so if they knew that prices were lower at another location, particularly in the case of over-the-counter medications. By using different locations for prescription and non-prescription medications it would render invalid the pharmacist/patient relationship mentioned earlier.

The other major area of concern centred around easy open containers. Although many individuals recognised the convenience of easy open containers, they also recognised the safety aspect of child proof containers. One individual stated that she would continue to use child proof containers, even though it meant going upstairs to her bedroom every medication time, as she always opened her containers on the bed. She explained that this enabled her to scoop up easily the pills or capsules that "flew from the vial as the cap snapped off, spraying the immediate area with its contents". This incident indicates how difficult it may be to change people's attitudes to varying aspects of drug compliance; hence it might be naive to assume that, by watching one audio-visual presentation, all will be corrected.

It was interesting to note that all ten individuals gave a correct answer to question number three in the pretest.

Question three required the respondent to name a social drug. However, all individuals responded by naming an illegal drug such as marijuana (cannabis) or cocaine, indicating their concept of a social drug. On the post-test, however, all individuals responded by naming one of the social drugs seen in the presentation. This indicates the effectiveness of the presentation in being able to broaden the concepts of the target audience.

CHAPTER VIII

IMPLEMENTATION, SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The slide/tape presentation, entitled Medicine and Illness - The Cause or the Cure, appears to be successful in presenting an overview of the ways to be compliant with medications and the support available from differing health professionals.

There are a number of channels through which the presentation can be disseminated to a wide audience, to the elderly and family members, health professionals and those concerned with educating health professionals.

At St. Clare's Mercy Hospital School of Nursing it is used in the education of student nurses, as well as by nurses who are concerned with the discharge of patients. Four copies and an appropriate projector are available upon request from the audio visual centre in the School of Nursing.

With the work carried out by the Victorian Order of Nurses and Public Health Nurses it is possible for the slide/tape presentation to be disseminated to a wide general audience. Both organisations in St. John's have viewed the presentation and have been informed as to its availability for loan as well as acquiring a permanent copy for use in their organisations. A copy of the presentation has also

been circulated to other Public Health Nurse centres across the Island.

Although the slide/tape presentation was originally designed to meet the specific needs of the elderly drug user, there is every indication that the content of the presentation is also suitable for other audiences. Responses to the user evaluation form indicate that it would be suitable for use in a wide variety of settings. These settings could include high school and post-secondary institutions, service clubs, church groups and senior citizen apartment complexes. This concept of making the presentation available to those who have not yet reached senior citizen status, bears out the findings of the research literature. The research indicates that education of drug compliance can only help relieve the problems faced by many in their latter years, and that it is never too early to learn the correct ways in which to manage medications.

Although the slide/tape presentation can be used as a self instructional package, indications from the audience evaluation are that it is most effective if the elderly individual can discuss identified concerns immediately following the presentation. As the presentation was designed to contain six distinct units (See Appendix H, question six) it is possible for the presenter to easily locate and review any concern identified by the elderly individual. The developer recommends this approach so

that by referring back to a specific slide or concept, the presenter can identify, review and explain any concerns an elderly individual may have, ensuring a thorough comprehension of good drug compliance.

The presentation, Medicine and Illness: The Cause or the Cure, has been seen to be well accepted and of benefit not only to the elderly individual but also to the health professional. The developer therefore recommends that other areas identified as being problematic or of concern to the elderly be addressed in a similar fashion.

Elderly individuals and health professionals alike indicate that the presentation contains information appropriate in developing awareness and the promotion of good drug compliance in age groups other than the elderly. As the presentation contains visuals and aspects of the narration directed specifically at the elderly, the developer recommends the development of similar presentations to be appropriate for other identified age groups.

An awareness and the promotion of good drug compliance at any age will prepare the individual for the time when a medication regimen is deemed necessary to maintain or improve current health conditions.

BIBLIOGRAPHY

Bibliography

Blackwell, B. (1978). Counselling and compliance. Patient Counselling and Health Education, Fall, 45-48.

Bliss, M.R. (1981). Prescribing for the elderly. British Medical Journal, 283, 203-207.

Bowler, M.H., Morisky, D.E., & Deeds, S.G. (1980). Needs assessment strategies in working with compliance issues and blood pressure control. Patient Counselling and Health Education, First quarter, pp. 22-26.

Bretz, R.A. (1971). A Taxonomy of Communication Media. New Jersey: Englewood Cliffs.

Briggs, L.J. (1970). Handbook of Procedures for the Design of Instruction, New Jersey: Englewood Cliffs.

Clark, R.E. (1975). Constructing a taxonomy of media attributes for research purposes. A.V. Communication Review, pp. 197-215.

Covington, T.R., Porter, M.E., & See, K. (1979). Improper prescription instructions: a factor in patient compliance. Patient Counselling and Health Education, Winter/Spring, 97-100.

Daniels, L.M., & Kochar, M.S. (1979). What influences adherence to hypertension therapy. Nursing Forum, 18 (3), 231-245.

Gagne, R.M. (1970). Learning theory, education media and individualized instruction. (Paper presented to a faculty development seminar.) Bucknell University.

Gaines, H.P. (1979). Why patients learn - why patients fail. The Journal of Practical Nursing, 29 (9), 22-24.

Hussar, D.A. (1980). Remingtons pharmaceutical sciences (16th ed.). Easton: Mac Publishing Company.

Kennedy, B. (1981). Self medication. The Canadian Nurse, 77 (3), 36-37.

Kennedy, C.E. (1978). Human development: The adult years and aging. New York: Macmillan Publishing Co. Inc.

Lieberman, M.A. and Tobin, S.S. (1983). The experience of old age. New York: Basic Books.

Lundin, D.V. (1983). Pharmacological aspects of aging. Toronto: Mosby.

Morris, L.A. & Halperin, J.A. (1979). Effects of written drug information on patient knowledge and compliance: a literature review. American Journal of Pharmacology, 69 (1), 47-51.

Roe, D.A. (1980). Nutrition and chronic drug administration: effects on the geriatric patient. American Pharmacy. NS 20, 5, 273, 33.

Romiszowski, A.J. (1974). The selection and use of instructional media. New York: John Wiley & Sons.

Shaw, S.M. & Ophit, L.J. (1976). Need for supervision in the elderly receiving long term prescribed medication. British Medical Journal, 505.

Smith, D.L. (1982). Medication guide for patient counselling (2nd ed.). Philadelphia: Lea & Febiger.

Smith, D.L. (1977). Patient compliance with medication regimens. On Continuing Practice, 4 (2), 17-25.

Solomon, J.R. & Weiner, A.S. (1981). Pharmacological aspects of aging. Toronto: Mosby.

Sorensen, G. (1981). Older persons and service providers. New York: Human Sciences Press.

Steinberg, S. (1981). Drug therapy in the elderly - problems and recommendations. On Continuing Practice, 8 (1), 15-19.

Steinberg, S.K. (1978). A rational approach to the use of drugs in the elderly. Canadian Pharmaceutical Journal, 3 (3), 86-91.

Stolovitch, H.D. Reaching the handicapped through their teachers: The development and evaluation of two competency-based training modules. Center for Innovation in Teaching the Handicapped. Indiana University, 1976, May Final Report, 9.33, 37-60.

Stolovitch, H. & Thiagarajan, S. (1975). Alternate approaches to media selection. Educational Technology, 15 (11), 26-32.

Teare, L. (1982). Pharmacist — senior citizens dialogue. On Continuing Practice, 9 (1), 7-9.

Tearne, L.M., Alexander, B.P. & Scales, A.C. (1980). Senior citizens' concerns about drugs. On Continuing Practice, 7 (2), 17-19.

Thiagarajan, S., Semmel, D.S. and Semmel, M.I. (1974). Instructional development for training teachers of exceptional children. Bloomington, Indiana University Press.

Vischer, A.L. (1980). Old age: Its compensations and rewards. New York: Arno Press.

Wade, B., & Finlayson, J. (1983). Drugs and the elderly. Nursing Mirror, 156 (18), 17-21.

Wallace, D.E., & Watanabe, A.S. (1977). Drug effects in geriatric patients. Drug Intelligence and Clinical Pharmacy, 2, 597-603.

Watt, J. (1977). Consulting - why bother? On Continuing Practice, 4 (1), 3-7.

APPENDICES

APPENDIX A

APPENDIX A

PERSONAL INTERVIEW QUESTIONNAIRE

Name of Organization: _____

Contact Person: _____

Date: _____

1. When/how do you find out about drug noncompliance?

2. What percentage of elderly people are on long term medication?

3. What percentage of long term medication patients are recurring non-compliant?

4. What verbal/written information are the elderly given concerning their medication?

5. What ways/techniques are used to inform the elderly about their medication and compliance?

6. What illnesses pose the biggest problem?

7. What drugs pose the biggest problems?

8. What are the main factors that contribute to non-compliance?

   Examples:

   a. Don't like taking medicine.

   b. Difficulty with instructions-understanding and illiteracy.

   c. Difficulty opening containers.

d. Financial constraints.

e. Complicated regime.

f. Side effects.

g. Liquid intake.

h. Underdose/overdose.

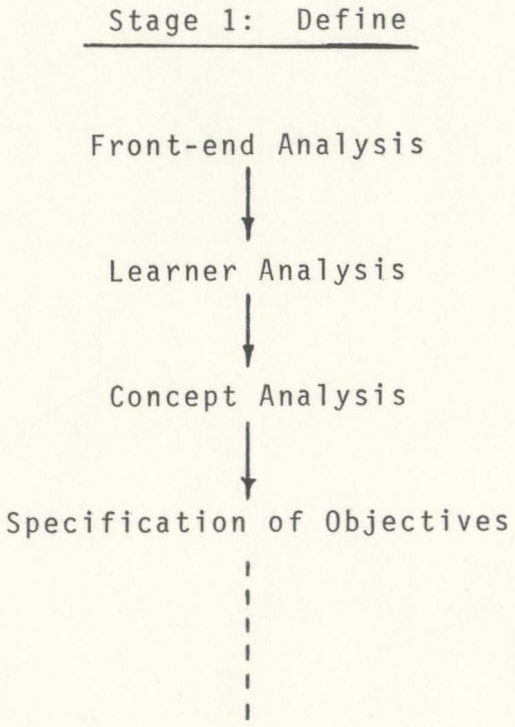
i. Organization of medication.

j. Other: _____.

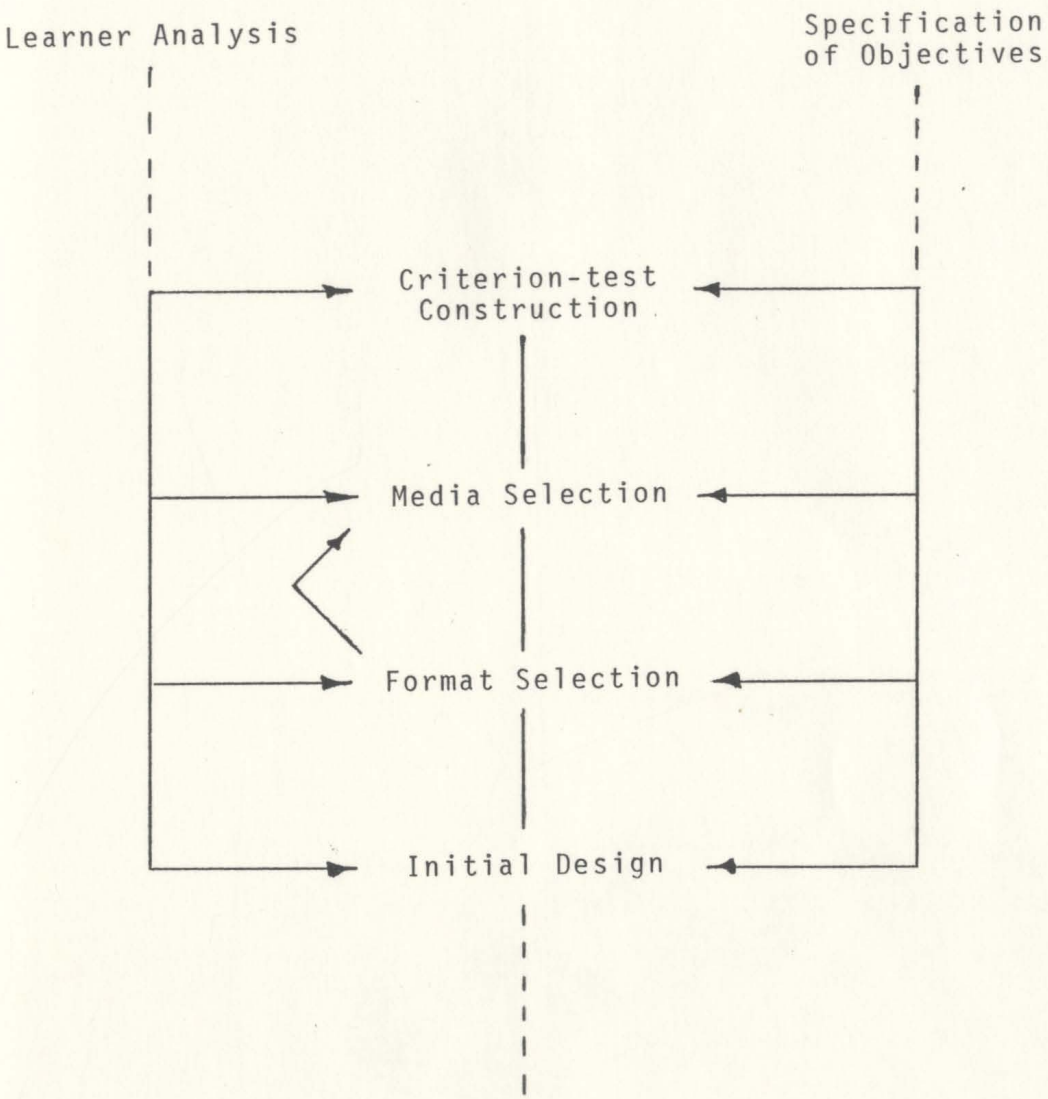
APPENDIX B

APPENDIX B

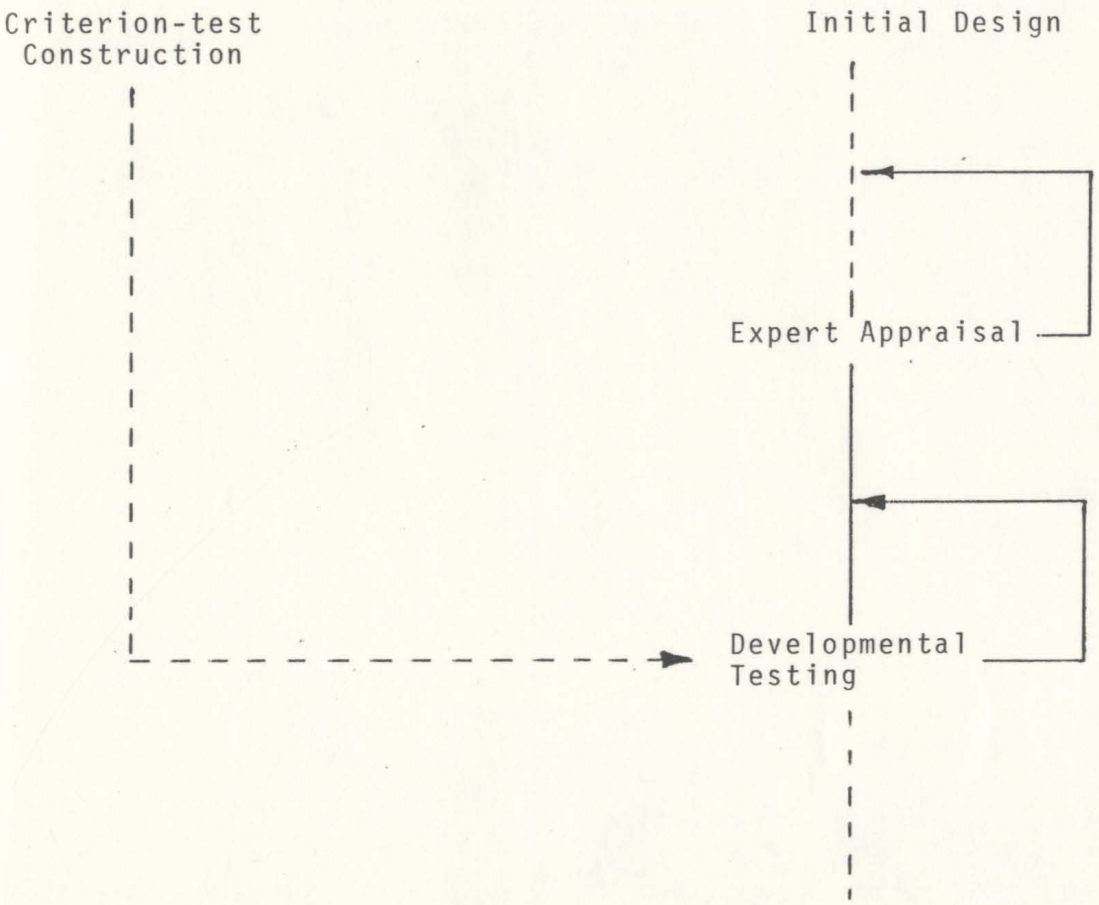
FOUR-D MODEL



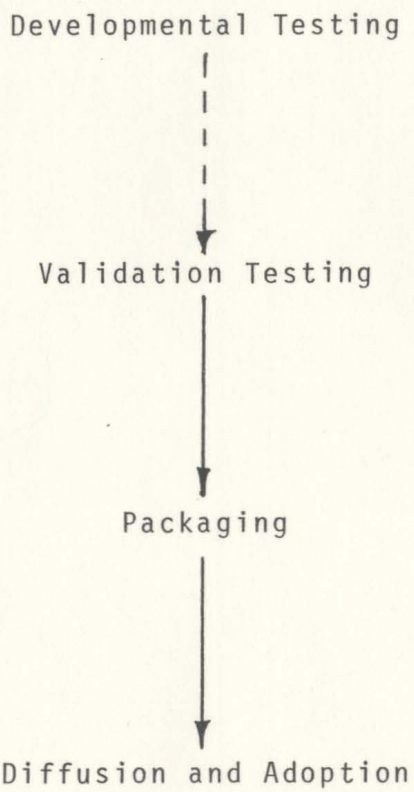
Stage 2: Design



Stage 3: Develop



Stage 4: Disseminate

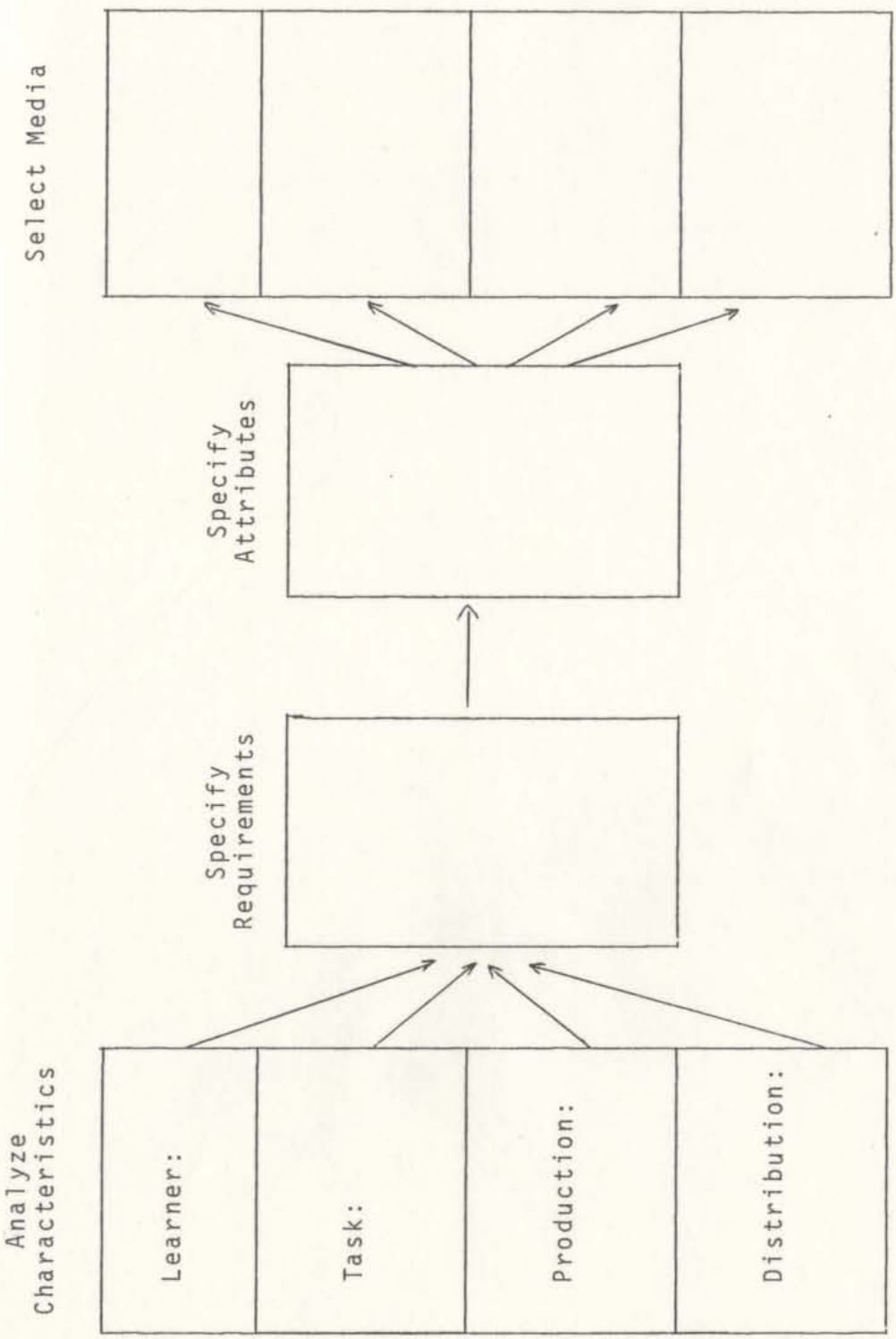


Thiagararjan, Semmel and Semmel, 1974, pp. 6-9

APPENDIX C

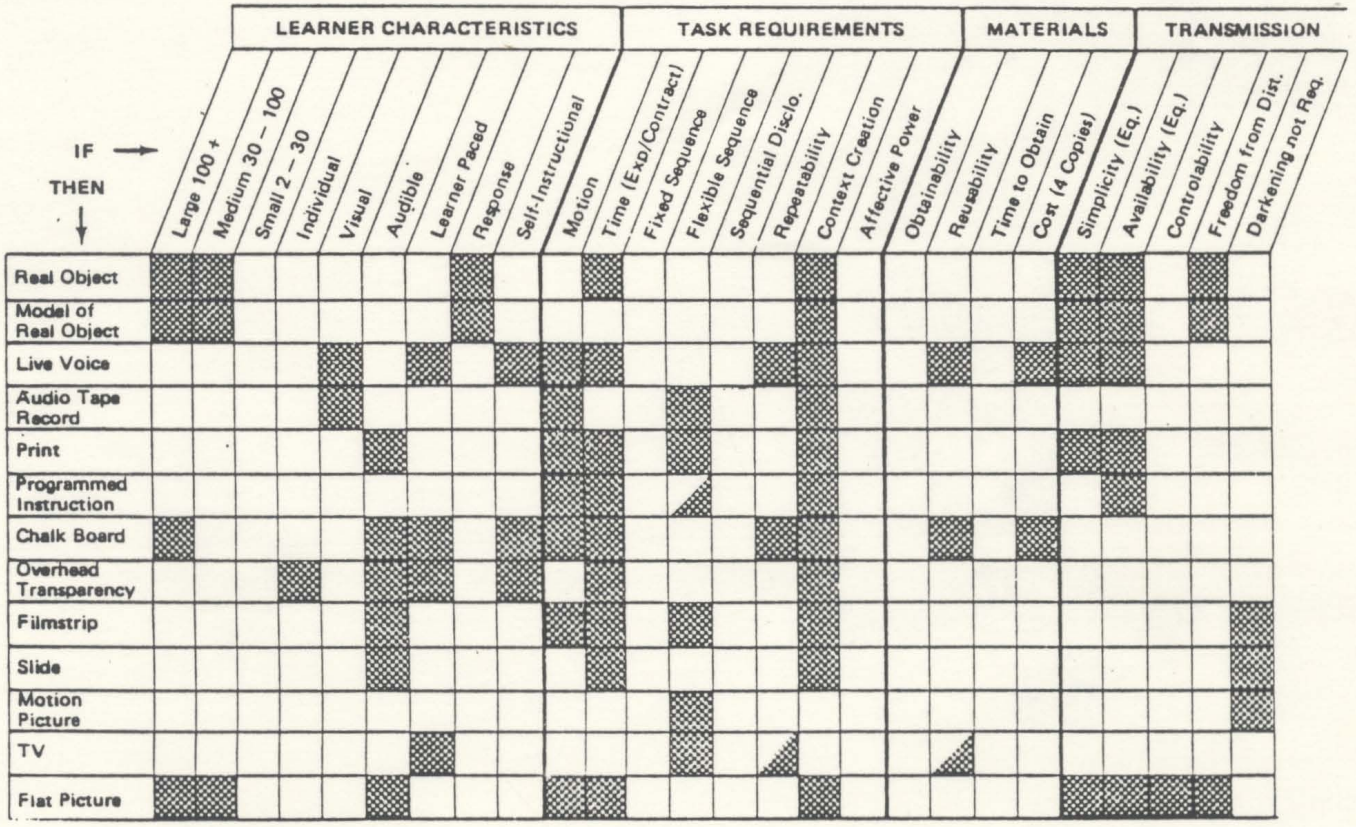
APPENDIX C

A NORMAL MEDIA SELECTION MODEL



APPENDIX D

APPENDIX D



An 'If-Then' chart

Summarising characteristics which make certain media unsuitable or partly suitable for instruction. Produced by J.G. Wilshusen and R. Stowe (from L.J. Briggs, Handbook of Procedures for the Design of Structures, 1970).

APPENDIX E

APPENDIX E

MEDIA/MEDIA ATTRIBUTES

Media

Media Attributes		CAI input/output terminal	Videotape	Super 8- filmloop	16mm film	Overhead transparency	Slide	Filmstrip	Realia	Print	Audio tape (cassette)	Audio tape (reel)
TASK	Audio	/	X	X		X					X	X
	Visual	X	X	X	X	X	X	X	X	X		
	Motion	/	X	X	X							
	Color		/	X	X	/	X	X	X	/		
	3-Dimensionality								X			
	Realism		X	X	X		/	/	/		/	/
LEARNER	Response Acceptance	X				/				X	/	/
	Feedback	X	/	/	/	/	/	/		X	X	X
	Audio	/			X						X	X
	Visual	X	X	X	X	X	X	X	X	X		
	Self-Pacing	X	X	/		/	X	X	X	X	/	/
	Random Access	X	/			X	X	X	X	X		
PRODUCTION	Editability	X	/	/	/	X	X	X	/	X	X	X
	Transportability	/	/	/	/	X	X	X	/	X	X	X
	Simplicity		/			/	X	/		X	X	X
	Low Cost					X	X	/	/	X	X	X
	Short Time Requirement	/				X	X	/		/	X	X
DISTRIBUTION	Editability	X					X			X		/
	Self-Contained	X		X	X	X	X	X	/	X	X	X
	Scheduling Flexibility		X	X	X	X	X	X	X	X	X	X
	General Availability		/		/	X	X	X		X	X	X
	Ease of Use	X		X		X	/	X	X	X	X	/
	Low Cost					/	X	X		X	X	X
	Quick Set-up Time	/		X		X	/	X	X	X	X	X
	No Special Environment	/	X	/		X		/	X	X	X	X
	Grouping Flexibility	/	/	/	/	/	X	X	X	X	X	X
	Compactness Handling/ Storage		/	X	/	/	/	X		/	X	/

X = Is usually present in the medium
/ = Can be obtained, but is not a usual attribute of the medium
 = Is usually not associated with the medium

APPENDIX F

APPENDIX F

SCRIPT VERIFICATION

MEDICINE AND ILLNESS - THE CAUSE OR THE CURE

Dear Content Expert:

Enclosed is the tentative script concerning drug compliance and the elderly. As we discussed earlier, would you please read it through and offer any suggestions for modifications as well as the inclusion or exclusion of any point(s).

Also, any suggestions concerning the appropriateness of the accompanying graphics, as well as any further suggestions or ideas would be welcomed.

Please feel free to alter the actual script in any way, write on or over the script itself or enclose separate notes. All changes or ideas will be carefully considered prior to writing the final draft.

Thank you in advance for giving of your time and expertise.

Sincerely,

Ian Carr

APPENDIX G

APPENDIX

SLIDE/TAPE PROGRAM:

Medicine and Illness:

The Cause or the Cure

(under separate cover)

APPENDIX G

SCRIPT:

MEDICINE AND ILLNESS:

THE CAUSE OR THE CURE

Detail of Slide	Narration
1. Graphic: Focus first. Advance one frame then start tape.	1. Silent.
2. Dark slide.	2. Music starts.
3. Medicine and Illness: The Cause or the Cure. Accompanied by a display of drugs in their original containers.	3. Music continues.
4. Made in Cooperation with Summer Canada and.... Accompanied by an outdoor summer scene of a boating lake and picnic site.	4. Music continues.
5. St. Clare's School of Nursing, St. John's, Newfoundland. Accompanied by a view of the entrance to the nursing school.	5. Music continues.
6. Produced by Ian Carr. Accompanied by a display of medications, spilled and mixed together.	6. Music continues.
7. Graphic illustration: Silhouette of elderly couple taking medicine.	7. The idea of growing older and taking medicine is something that seems all to easy to understand and accept. Music continues.

8. Split screen: Elderly gentleman raking the garden. Elderly lady vacuuming the floor.	8. Many people need medication to maintain or improve their health. This slide presentation is to show the importance of taking medications properly, and how you should go about it. Music continues.
9. Graphic: Medicine and Illness: The Cause or the Cure.	9. Music fades out.
10. Hospital room. Female nurse administering medication to an elderly male patient.	10. In a hospital or nursing home, it is the nurse's responsibility to make sure that those people requiring medication take it correctly.
11. Split screen: Elderly gentleman drinking from a glass. Elderly lady picking up medicine.	11. For those people living at home, the responsibility for taking their own drugs lies with each individual. It is not only important to know how to take drugs properly, but also just what drugs are, and what they do.
12. Graphic: Three types of drugs.	12. A drug is any medicine you put into your system which changes the way your body is functioning at that time. There are three types of drugs available to us.
13. Graphic: Prescription drugs. Accompanied by a view of prescription drugs behind a pharmacy counter.	13. Prescription drugs can only be obtained with a doctor's prescription. These medicines are used to relieve the symptoms of illness or to cure the illness completely.

14. Graphic: Over-the-counter drugs. Accompanied by a view of over-the-counter drugs on pharmacy shelves.	14. Over-the-counter drugs can be readily obtained from the shelves in a drug store and can be bought without a doctor's prescription. They are used to relieve minor ailments.
15. Graphic: Social drugs. Accompanied by a view of a collection of alcohol and caffeine bearing products.	15. Many people do not realize it, but alcohol, tobacco and caffeine are classified as social drugs, as they are capable of changing the way you feel.
16. Graphic: Use drugs wisely and correctly.	16. Use of these types of drugs can help you feel much better, but if they are used incorrectly they can be harmful.
17. Elderly gentleman sitting in a doctor's waiting room.	17. When you feel ill you should go and see, or call on, your doctor, pharmacist or public health nurse.
18. Elderly gentleman showing his medication to the doctor.	18. When visiting your doctor, it is most important that you take along all the medication you are currently using. This includes not only your prescription drugs, but also any over-the-counter drugs you may be using.
19. Doctor listening to the elderly gentleman's concerns.	19. In order for the doctor to understand your problem, it is important that you confide in him and tell him all the symptoms you are experiencing as well as your day to day activities.

20.	Elderly gentleman sitting in his kitchen reading a cook book.	20. Not every problem requires medication. Sometimes a change in living, diet or working habits can improve the way you feel. Discuss these points with your doctor.
21.	Graphic: Side effects.	21. Drugs you are currently taking, or an interaction of drugs can sometimes cause problems. These are known as side effects.
22.	Graphic: Unpleasant feeling.	22. Side effects are unpleasant or unexpected feelings in the body that are sometimes experienced when a person is taking medication.
23.	Doctor and elderly gentleman talking.	23. Ask your doctor what side effects, if any, you are likely to experience with the drugs you are taking or just how you should feel when taking your medicine. It is a good idea to keep notes of any side effects you may experience. Give these to your doctor.
24.	Elderly lady emptying last capsule from bottle into her hand.	24. Unless you experience side effects that you think your doctor should know about, you should complete the full course of your medication.

25. Graphic: Always complete a full course.	25. Although your symptoms of illness may disappear, this does not mean that the illness is cured. The problem may recur if you do not complete the full course of your medication.
26. Graphic, split screen: Ten days, thirty days. Only stop on the advice of your doctor.	26. Whether your prescription lasts for a few days or a number of weeks, do not stop taking your medicine until it is completely used, or unless your doctor advises you to do so.
27. Doctor writing out instructions for the elderly gentleman.	27. When talking with your doctor, ask him to write down instructions and directions which will help you in taking your medication. Your doctor is there to help you!
28. Graphic: Help your doctor to help yourself.	28. Help your doctor to help yourself.
29. Elderly gentleman sitting opposite one doctor.	29. Unless your doctor refers you to a specialist, you should see only one doctor.
30. Split screen: Four doctors.	30. Seeing too many doctors can add to your problem rather than help it.
31. Elderly lady entering a pharmacy.	31. In a similar way, do not use more than one pharmacy. Your pharmacist is there to help you too. By developing a close relationship with your pharmacist, as well as your doctor, both can work together in helping you improve your health.

32. Elderly lady passing prescription to the pharmacist.	32. Whenever possible, pick up your prescription personally. Even when buying over-the-counter drugs, discuss your purchase with your pharmacist, as well as any possible side effects.
33. Pharmacist explaining a drug to the elderly lady.	33. Pharmacists are trained, experienced professionals who understand drugs and how they work. They can explain to you all you need to know about your medication.
34. Pharmacist assisting the elderly lady to choose an over-the-counter drug.	34. When you are buying any over-the-counter drugs, the pharmacist can assist you in selecting the medication that will not react with any prescription drugs you may be taking.
35. Graphic: Help your pharmacist to help yourself.	35. Help your pharmacist to help yourself.
36. Pharmacist explaining instructions on a medication to the elderly lady.	36. If you have difficulty following instructions on your medication, ask your pharmacist to explain them to you.
37. A typewritten labelled bottle of pills juxtaposed to a large print hand written note.	37. Small print is often difficult to read. Your pharmacist will gladly give you separate instructions in large print.

38. A child proof container of capsules juxtaposed to an easy open container of pills.	38. Many people have difficulty opening child-proof containers. Prescription drugs are usually supplied in these containers. However, if you would like an easy-to-open container, ask your pharmacist.
39. Graphic: Good drug compliance leads to better health.	39. When you have acquired your drugs, it is your responsibility to see that you take them correctly. This is known as compliance. Good compliance will lead to better health.
40. Graphic: Take medication as prescribed.	40. Good compliance means taking your drugs in the correct amount, at the correct time. Never miss taking your medicine and always take the prescribed amount! Too much or too little is not good for you. The prescribed amount is the best amount!
41. Elderly gentleman and elderly lady swopping similar drugs.	41. Also, you should never share your drugs with anyone else or use any other person's medication. Because some drugs look alike, this does not mean they are the same.
42. Graphic illustration: Two cartoon capsule figures lifting weights. One strong capsule, one weak capsule.	42. Drugs come in different strengths. Someone else's drugs could be weaker or stronger than your own even though they may have the same name. Play it safe. Take only your own medication.

43. Graphic: Food and drink can affect medicines.	43. Before taking your drugs home, check with your doctor or pharmacist as to what food or drink may affect your medication.
44. Graphic: With or without food.	44. Some medicines should be taken with food; others should be taken on an empty stomach. Know which is best for your medication!
45. Graphic: Water is safest.	45. In a similar way, fluids can have an effect on medicines. Drugs are usually washed down with water, milk, soft drinks or juice. Check with your doctor or pharmacist to see which is best for your medication, or in some cases which should be avoided. Usually water is best.
46. Graphic: Never mix medication and alcohol.	46. Taking alcohol with medication should be avoided at all times. Do not forget that alcohol is a drug too and will react with the medication you are taking.
47. Split screen: Elderly gentleman sitting looking at a medicine bottle. Elderly lady sitting looking at pills and capsules.	47. Once you have your drugs at home, it is your responsibility to take them correctly.

48.	Split screen: Elderly gentleman looking at a kitchen clock. Elderly lady sitting, eating breakfast.	48. Drug taking should be part of your daily routine. Getting up and going to bed as well as snack or meal times are often convenient times of the day to help you remember your medication.
49.	Split screen: Four different methods of organizing drugs into reminder containers.	49. Organizing your drugs and developing a system to remind yourself to take medication on time will also help. Use whichever method is best for you!
50.	Split screen: Elderly gentleman looking at wall calendar/reminder chart. Elderly lady looking into compliance/ reminder box.	50. This should include a way of noticing if you have missed taking any particular medication.
51.	Split screen: Pharmacist making a telephone call. Elderly lady making a telephone call.	51. If you miss taking a dose of your medication, check with your doctor or pharmacist as to what you should do. Never take a double dose. It is dangerous!
52.	Graphic: Take the correct amount at the correct time.	52. With all prescription drugs you must take the correct amount at the correct time in order to gain the greatest benefit from your medication.

53.	Split screen: Public health nurse arriving by car. Elderly lady greeting public health nurse at the door.	53. Apart from your doctor and pharmacist, help with your medication is also available from visiting nurses. Your local public health nurse or V.O.N. will be glad to help you in your own home. All health professionals would rather have you well at home instead of sick in hospital.
54.	Public health nurse sitting talking with the elderly lady.	54. Help in organizing your drugs and ways of keeping track of your medicine is available to you in your own home. Your doctor, pharmacist or nurse will be glad to help. All you have to do is ask.
55.	Split screen: Elderly gentleman receiving a telephone call. Elderly lady sitting chatting with a young lady.	55. Friends, family or neighbours can also help you by reminding or assisting you at medication times.
56.	Elderly gentleman placing medication into a drawer.	56. Drugs do not last forever and some can even become ineffective after a short time. Whatever the drug, it should be kept in a cool dry place, away from direct sunlight.
57.	Elderly lady placing medication in a fridge.	57. Some medicines need to be kept in the refrigerator. If you are in doubt as to the best place to keep yours, check with your doctor or pharmacist.

58.	Split screen: Young girl looking at medication on a kitchen counter. Young girl playing with medication on the floor.	58. Drugs should also be kept in a place not easily accessible to others, particularly children. Children are fascinated by bottles and pills and can easily mistake your drugs for soft-drinks or candy.
59.	Display of different medications in their original labelled containers.	59. Until you are ready to take your medicine, it should be kept in the original labelled container. As many drugs look alike, it is easy to mistake them for others, so keep them separate.
60.	Elderly lady sitting reading a labelled drug container.	60. Each time you take your medicine, check to see if it is the correct one. Do this in a well lit area so as not to make any mistakes.
61.	Elderly lady giving old medication back to pharmacist.	61. Any drugs that you are no longer using should be discarded. Take them back to your pharmacist who will dispose of them safely...
62.	Drugs being flushed down the toilet.	62. or flush them down the toilet.
63.	Young boy and cat examining the contents of a garbage bin.	63. Do not put them in the garbage. They can be found there all too easily by animals or children.

64.	Graphic: Good drug compliance leads to good health.	64. Everyone gets sick from time to time and needs medicine to restore them back to health. If you have been healthy all your life and now find yourself on short or long term medication, the way to improve your health is good drug compliance.
65.	Split screen: A doctor, a pharmacist and a public health nurse.	65. Health professionals are there to help you. Make sure you help them by telling them all you know of your illness and by asking questions concerning your medication.
66.	Elderly lady buying over-the-counter medication at a checkout.	66. Modern drugs can improve your standard of health, but only if taken properly. However, medicine will not solve all your problems. More medication is not always the answer.
67.	Split screen: Elderly gentleman seen walking and eating. Elderly lady seen asleep in bed.	67. Often a good diet, regular exercise and a good night's sleep can go a long way in making you feel good, and may also help to eliminate some of the drugs you may be taking.
68.	Graphic: Doctor. Accompanied by a photograph of the doctor.	68. By working closely and talking with your doctor,.... Music fades in.

69.	Graphic: Pharmacist. Accompanied by a photograph of the pharmacist.	69.	pharmacist,.... Music continues.
70.	Graphic: Public health nurse. Accompanied by a photograph of the public health nurse.	70.	public health nurse,.... Music continues.
71.	Graphic: Family and friends. Elderly couple seen with a young couple.	71.	family and friends,.... Music continues.
72.	Display of medication neatly arranged in their original labelled containers.	72.	and by being in control of your medication, you will undoubtably lead a longer and healthier life. Music continues.
73.	Graphic: Medicine and illness: The cause. Accompanied by a display of spilled and mixed up medications.	73.	Do not let your drug taking habits be the cause of further medical problems.... Music continues.
74.	Elderly gentleman lying in a hospital bed.	74.	Music continues.
75.	Graphic: Medicine and illness: The cure. Accompanied by a photograph of the elderly couple walking down a street.	75.	Make them the cure! Music continues.
76.	Graphic, split screen: Narrator. Louise Nugent.	76.	Music continues.

77.	Graphic, split screen: Researcher. Judy Porter.	77. Music continues.
78.	Graphic, split screen: Illustrator. Tina Olivero.	78. Music continues.
79.	Graphic, split screen: Photographer. Ian Carr.	79. Music continues.
80.	Graphic: The end. Stop tape and rewind.	80. Music fades.

APPENDIX H

APPENDIX H

SLIDE/TAPE PRESENTATION - USER EVALUATION FORM

MEDICINE AND ILLNESS - THE CAUSE OR THE CURE

After you have viewed the slide/tape presentation, I would appreciate it if you would take the time to complete the following questionnaire. Please indicate your response in the space provided. Your replies will help to evaluate and improve the package. Thank you for your time.

Ian Carr

Please identify yourself by checking (✓) the appropriate box.

1. Male ☐ Female ☐

2. Age 18 - 21 ☐ 22 - 30 ☐ 31 - 40 ☐ 41 - 50 ☐ 50 and above ☐

3. Which of the following categories best apply to you. Check (✓) one or more.

Nurse	☐	Patient	☐
Doctor	☐	Senior Citizen	☐
Pharmacist	☐	General Public	☐
Health Professional	☐	Other (please specify)	☐

4. Please rate the quality of the production by circling the response that best represents the way you feel about the following statements:

SA = Strongly Agree
A = Agree
D = Disagree
SD = Strongly Disagree

a)	The content is accurate.	SA	A	D	SD
b)	The content is presented in a logical sequence.	SA	A	D	SD
c)	The concepts are clearly stated.	SA	A	D	SD
d)	The presentation is too long.	SA	A	D	SD
e)	Overall the presentation is effective.	SA	A	D	SD
f)	The presentation is suitable only to a male audience.	SA	A	D	SD
g)	There is a lack of continuity throughout the presentation.	SA	A	D	SD
h)	The quality of the photography is good.	SA	A	D	SD
i)	The accompanying slides are not appropriate to the dialogue.	SA	A	D	SD
j)	The production is too sentimental.	SA	A	D	SD
k)	The narration is too fast.	SA	A	D	SD
l)	Humor is used in a suitable way.	SA	A	D	SD
m)	The accompanying music is most unsuitable.	SA	A	D	SD
n)	The accompanying script is useful for referral.	SA	A	D	SD

o) The presentation is suitable for a wide range of audiences other than senior citizens. SA A D SD

5. The slide/tape presentation consists of 6 major areas stated below. For each of these areas, please indicate:

a) anything you do not agree with;

b) anything you deem inappropriate;

c) any suggested improvements. (Continue on back of paper if required).

i) Types of Drugs:

ii) Doctor's Office:

iii) At the Pharmacy:

iv) Public Health Nurse:

v) Drug Taking at Home:

vi) General Life Style:

6. Are there any individual slides that you deem inappropriate or unsuitable? If so, please give:

   a) Number of slide

   b) Area of concern

   c) Suggested improvements

7. This slide/tape presentation is accompanied by a script. Please comment on its appropriateness and usefulness.

8. Suggest any individuals, groups, or organizations who you think would benefit from seeing this slide/tape presentation, or by having it at their disposal.

9. Any other comments, criticisms or suggestions related to Medicine and Illness - the Cause or the Cure.

APPENDIX I

APPENDIX I

QUESTIONNAIRE

AUDIENCE EVALUATION OF MEDICINE AND ILLNESS: THE CAUSE OR THE CURE

Please answer the following questions:

SECTION ONE

Give one name for each of the following types of drugs:

1. Prescription drug 1. _____
2. Over-the-counter drug 2. _____
3. Social drug 3. _____

SECTION TWO

Please read the statements below and circle the response which best describes your feelings:

A = Agree DK = Don't Know D = Disagree

4. Medication is sometimes necessary to maintain or improve my health. A DK D
5. Drugs change the way I feel. A DK D
6. It is my responsibility to take medication correctly. A DK D

SECTION THREE

Please read the statements below and circle the response that best describes how important you feel each statement is to tell your doctor, pharmacist or public health nurse.

I = Important DK = Don't Know NI = Not Important

7.	Prescription Drugs I am currently using	I	DK	NI
8.	My daily eating habits	I	DK	NI
9.	Symptoms of my illness	I	DK	NI
10.	My daily activities	I	DK	NI
11.	My daily drinking habits	I	DK	NI
12.	The side effects of drugs I am currently taking	I	DK	NI
13.	Which over-the-counter drugs I am currently using	I	DK	NI
14.	My failure to finish all my prescription drugs	I	DK	NI
15.	To ask for written instructions on how to take my medicine	I	DK	NI
16.	How I remember to take my drugs	I	DK	NI
17.	How I store my drugs	I	DK	NI

SECTION FOUR

Please read the statements below and circle the response that best describes your feelings towards good drug compliance:

I = Important DK = Don't Know NI = Not Important

18.	Taking medication on time	I	DK	NI
19.	Taking the prescribed amount	I	DK	NI
20.	Taking medication with the right fluids	I	DK	NI
21.	Finishing all a prescription	I	DK	NI
22.	Using only one doctor	I	DK	NI
23.	Using only one pharmacist	I	DK	NI
24.	Being able to open the drug container easily	I	DK	NI
25.	Not sharing other people's drugs	I	DK	NI
26.	Never mixing drugs with alcohol	I	DK	NI
27.	Disposing of old medications	I	DK	NI

SECTION FIVE

Please read the statements below and circle the response that best describes your feelings that can help lead to a healthy lifestyle.

A = Agree DK = Don't Know D = Disagree

28.	Eating a good well balanced diet	A	DK	D
29.	Taking regular exercise	A	DK	D
30.	Having a good nights sleep	A	DK	D

APPENDIX J

APPENDIX J

RESULTS OF AUDIENCE APPRAISAL

SECTION ONE

	Pretest		Posttest	
Question number	% Correct	% Incorrect	% Correct	% Incorrect
1	100	0	100	
2	100	0	100	
3	100	0	100	

SECTION TWO

	Pretest			Posttest		
Question number	%A	%DK	%D	%A	%DK	%D
4	80	0	20	100		
5	50	20	30	100		
6	100	0	0	100		

SECTION THREE

	Pretest			Posttest		
Question number	%I	%DK	%NI	%I	%DK	%NI
7	90	0	10	100		
8	50	30	20	100		
9	90	10	0	100		
10	30	10	60	100		
11	20	20	60	100		
12	60	10	30	100		
13	70	10	20	100		
14	50	30	20	100		
15	80	0	20	100		
16	60	20	20	100		
17	60	20	20	100		

SECTION FOUR

	Pretest			Posttest		
Question number	%I	%DK	%NI	%I	%DK	%NI
18	100	0	0	100		
19	100	0	0	100		
20	60	30	10	100		
21	60	30	10	100		
22	30	30	40	100		
23	50	10	40	100		
24	20	20	60	100		
25	90	0	10	100		
26	90	10	0	100		
27	100	0	0	100		

SECTION FIVE

	Pretest			Posttest		
Question number	%A	%DK	%D	%A	%DK	%D
28	100	0	0	100		
29	100	0	0	100		
30	100	0	0	100		

Totals	Pretest		Posttest	
	% Correct	% Incorrect	% Correct	% Incorrect
	73	27	100	0