

MEDICATION PATTERNS

IN

NURSING HOMES

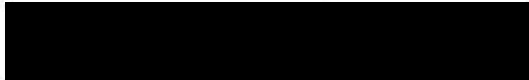
by

Violet Yager, R.N., B.S.

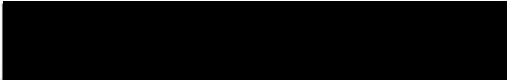
A Clinical Investigation

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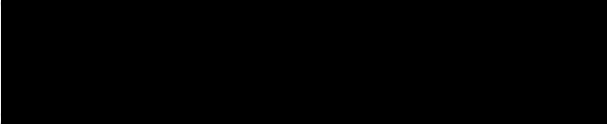
APPROVED:


Barbara C. Gaines, R.N., D. Ed., Associate Professor of Nursing
Clinical Investigation Advisor.


Julia S. Brown, Ph. D., Associate Professor of Sociology
First Reader


May E. Rawlinson, R.N., Ph. D., Professor of Nursing
Second Reader


Herbert A. Wendel, M.D., Associate Professor of Pharmacology
Third Reader


John M. Brookhart, Ph. D., Professor of Physiology and, Chairman of the
Graduate Council.

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TABLE OF CONTENTS

<u>Chapter</u>	<u>Page</u>
I.	INTRODUCTION 1
	Statement of the Problem 5
	Purpose 5
II.	METHOD 7
	The setting 7
	Study design and Data Collection Procedures 7
	Data Storage and Computational Methods 8
III.	RESULTS 10
IV.	DISCUSSION 17
V.	SUMMARY, CONCLUSIONS AND RECOMMENDATIONS 22
	Summary 22
	Conclusions 23
	Recommendations 24
	REFERENCES 25
	APPENDICES 27
	Appendix A - Letter of Permission to Conduct Study . . 29
	Appendix B - Data Collecting Forms 31
	Appendix C - National Hospital Formulary Drug Categories 34
	Appendix D - Summary of Antipsychotic and Anti- anxiety Drugs Prescribed and/or Received 39

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Number of All Drugs Prescribed - 214 Patients	11
2	Number of All Drugs Prescribed and Received - 214 Patients	12
3	Number of CNS Drugs Prescribed - 214 Patients	13
4	Number of CNS Drugs Prescribed and Received - 214 Patients	13
5	Number of Antipsychotic and Antianxiety Drugs Prescribed - 214 Patients	14
6	Number of Antipsychotic and Antianxiety Drugs Prescribed and Received - 214 Patients	15

CHAPTER 1

INTRODUCTION

The number of elderly in our population is steadily increasing. In 1900, 4.1 percent or 3 million adults were 65 years of age and over. In 1970, the number had jumped to over 20 million or 9.5 percent of the total population (U.S. Census, 1970). Population projections assure us that the number of elderly will continue to grow (Greville, 1957; Myers & Pitts, 1972).

The increase in the number of elderly is a result of a combination of many factors beginning with the technological changes associated with the Industrial Revolution. Improved medical care, nutrition, and sanitary conditions are important factors contributing to the increase in the average life expectancy. Other social changes have been important influences on the life style of the now more prevalent elderly. With the change from an agrarian society to an industrial society, the factory replaced the home as the site of production and the nuclear family replaced the extended family as the basic unit of society. Today, the elderly have little or no productive part in the lives of their children. The reverse is also true. The children are frequently unable to meet the needs of their aging parents (Merton & Nesbit, 1966).

The appearance of a larger proportion of elderly persons in the population plus changing family patterns has resulted in the emergence of a relatively new institution. This institution, the nursing home, is designed to assume the care of elderly who can no longer manage on their own. The nursing home industry did not really begin until

the enactment of the Social Security Act of 1935. It began to grow substantially after World War II, and accelerated tremendously after Medicare and Medicaid were enacted in 1965 (U.S. Senate Report, 1974). The growth of nursing homes has been rapid and accompanied by numerous problems. The United States Senate investigated the nursing home industry and issued a report documenting these problems. The report titled, Nursing Home Care in the United States: Failure in Public Policy. Supporting Paper No. 2 of this report, Drugs in Nursing Homes: Misuse, High Costs, and Kickbacks, details existing problems associated with drugs in nursing homes (U.S. Senate Report, 1975).

Traditionally, nurses in nursing homes have had greater responsibility than hospital based nurses, in all areas of patient care. Administration of drugs as well as observation of the patient for drug effects is a major function of the professional nurse. Even more important is the judgment of the nurse regarding pro re nata (prn) medications. The judgment of the nurse must be based on a good understanding of the physiological and psychological principles of aging as well as knowledge of pharmacology. Sound decisions can only be made by taking these factors into account.

REVIEW OF THE LITERATURE

The U.S. Senate Report issued in 1975 described a number of problems connected with drug use in nursing homes.

Examples of specific statements included in the U.S. Senate Report are:

The average nursing home patient receives about 4.2 different drugs a day, although more recent studies put the number at seven (p. 243).

Painkillers, tranquilizers, and sedative accounted for almost 40 percent or \$120 million of the Nation's \$300 million nursing home drug bill (p. 246).

Tranquilizers themselves made up almost 20 percent of these drugs for a total of \$60 million a year. It is worth restating that 10 percent of the total nursing home drug bill (or \$30 million a year) goes to pay for the two strongest tranquilizers available, Thorazine and Mellaril (p. 246).

There are certainly many legitimate uses of tranquilizers, but the sheer volume that has been documented creates at least the inference that some are given without proper controls (p. 269).

The information on numbers of drug prescriptions and costs were from the Government Accounting Office audit of medicaid drug prescriptions in three states. The states were Illinois, New Jersey and Ohio. The audit showed that the figures for all three states were similar. The results of this audit were published in the U.S. Congressional Record and in the U.S. Senate Report.

A more recent study by Brown, Boosinger, Henderson, Rife, Rustia, Taylor, and Young (1977) had as the primary focus drug-drug interactions in 188 residents in two homes for the elderly. One nursing home was urban and one nursing home was rural. Additionally, the frequency and average number of routine and pro re nata (prn) drugs prescribed for all residents was presented. The average number of routine drugs for each patient was 3.29 and the average number of prn drugs was 2.46. The total number of all drugs prescribed per patient was 5.75. It was noted that more prn drugs were prescribed for rural patients than for urban patients.

Subjects who were found to have potentially significant drug-drug interactions had twice as many drugs prescribed for them, three times as many routine drugs and two times as many prn drugs.

The total number of drugs prescribed per patient, as reported by Brown et al., (1977), of 5.75, was greater than the 4.2 average of the nursing home patient in the U.S. Senate Report.

Cooperstock (1974) notes the increased use of tranquilizers by the general population in several countries. One variable thought to be responsible for the trend toward increased prescribing of psychotropic drugs by physicians was a change in their perception of symptoms. Many patients who exhibited symptoms of emotional disorder also suffered from a range of physical disorders. Thus, physicians appeared to use psychotropic drugs as adjunctive therapy.

Parry, Balter, Mellinger, Cisin, and Manheimer (1973) have reported that psychotropic drugs are now used primarily as adjunctive therapy. That is, they are prescribed to alleviate anxieties and tensions that could cause exacerbation of the primary illnesses of cardiovascular or gastrointestinal origin.

Cain and Cain (1975) have published a compendium of psychotropic drugs to assist in organizing and using current drug information for current clinical practice. Dosage ranges, general characteristics, and side effects are arranged in chart form for easy reference by the physician. Indications for use are not provided. The physician must still consult pharmacological texts such as Meyers, Jawetz and Goldfien (1974) or the Physicians' Desk Reference to obtain this information. The value of the Cain and Cain reference is that it provides not only ranges for specific drugs but compares recommended dosages within a class of drugs.

Thus, it is suggested in the literature that patients in nursing homes are receiving increasing numbers of drugs on both a routine and prn

basis. The use of antipsychotic and antianxiety drugs is increasing in the general population. Additionally, their use in nursing homes was a controversial point in the Senate Report. However, the literature suggests that these drugs are being increasingly used as adjunctive therapy. As the Senate Report reminds us:

There are certainly many legitimate uses of tranquilizers, but the sheer volume that has been documented creates at least the inference that some are given without proper controls (p. 269).

Statement of the Problem

Professional nurses in nursing homes must concern themselves with the allegations of the Senate Report. The data for this report were obtained from midwestern and eastern states. The west was not represented. Therefore, it seems appropriate that an exploratory survey regarding the use of medications in selected nursing homes in Oregon is a suitable subject for nursing research.

Purpose of the Study

The purpose of the proposed study is to describe medication use in a selected population of nursing home patients in Oregon. Questions the study seeks to answer come from statements that appeared in the U.S. Senate Report and were cited in the Statement of the Problem.

These questions are:

What is the average number of drugs the nursing home patient takes per day?

What percentage of these drugs are central nervous system drugs?

What percentage of these drugs are tranquilizers?

Does the diagnosis or clinical indication support the use of the tranquilizer prescribed?

CHAPTER II

Method

The Setting

The 214 subjects who comprised the sample of the study represent patients in 17 of the 19 state licensed nursing home facilities in one county in Oregon. Only two of the nursing homes declined to participate. They were of small size and would have increased the sample size by only 8%. The nursing home facilities were both large urban homes and small rural homes.

Study Design and Sample

The study was descriptive and involved a patient chart audit of a single 24 hour period. The sample was limited to people 65 years and older so that comparisons with the Government Accounting Office (GAO) report could be made. From those patients 65 years of age or older, a 20 percent random sample was obtained. Business records, and/or the daily census list was used to eliminate all those not meeting the age criterion. These records were also used to determine whether the patient was present in the facility during the entire 24 hour period under investigation. The year 1976 was chosen since it was the most recent time from which complete data would be available. A day just prior to the beginning of the research period was chosen at random from a Tuesday, Wednesday, or Thursday. These days were selected as being the most

representative days of the week. The weekend was avoided as were the days of heavy staff absenteeism before and after the weekend. There has been a trend toward drug "holidays" in the administration of some categories of drugs with the weekend often being designated as the holiday period. Patients 65 and over and present on February 4, 1976 had their names listed and numbered consecutively. A table of random numbers was consulted until 20 percent of the population was selected. Permission to collect data from patient charts had been received from the Oregon Health Care Association and from individual nursing home administrators (See Appendix A, p. 29). The patients charts were then obtained and reviewed.

Data collected were recorded on a worksheet designed by the researcher for the study (See Appendix B, p. 31). Demographic data included birthdate, sex, and the date of most recent admission to the facility. Current primary source of payment was also obtained in order to make comparisons with the GAO audit. The original plan was to obtain diagnoses or the problem list as they appeared on the physician record. However, some of these records contained no diagnoses or problem list so the diagnoses or problems appearing on the admitting record were used. The diagnoses or problems were then classified according to the International Classification of Diseases approved by the World Health Organization (Diagnostic and Statistical Manual of Mental Disorders, American Psychiatric Association, 1968).

All medications, both regular and prn were recorded whether administered or not. The dosage ordered and the dosage received in this 24 hour period were recorded from the medication list in the patient

chart. These medications were then classified according to the American Hospital Formulary (1975) to be consistent with the GAO audit.

CHAPTER III

Results

The U.S. Senate investigation into the nursing home industry authorized the GAO to audit Medicaid drug payments in the states of Illinois, New Jersey and Ohio. This audit raised questions about drug practices in nursing homes everywhere. The purpose of this study was to determine if some of these same drug patterns would emerge in a measured sample of nursing home patients in Oregon. This study was also designed to reveal any differences that might exist between the number of drugs that were prescribed and the number of drugs that were administered to the patients.

The total number of all drugs prescribed for the 214 patients in this study was 1,288 (See Table I). The range was from 0 to 19 drugs per patient with a mean of six. Of the 1,288 drugs prescribed, 675 (52 percent) were prescribed on a routine basis, i.e., there was a regularly scheduled time for their administration. Most of the 675 routine drugs were prescribed on a daily basis, but a few, 24 (2 percent) were prescribed on a drug holiday regimen or on a weekly or monthly basis. The remainder of the 1,288 drugs was the 613 (48 percent) pro re nata (prn) prescriptions. The drug was given as the term describes, whenever necessary.

Table 1
Number of All Drugs Prescribed
214 Patients

Type of Prescription	All Drugs	Percent	Mean
Routine	675	52	3.15
Pro re nata	613	48	2.86
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Total	1,288	100	6.01

The number of drugs recorded as received by the patients was considerably less than the number prescribed. Of the 1,288 drugs prescribed, 711 (55 percent) were recorded as received by the patient (See Table 2). The range was from 0 to 12 drugs per patient with a mean of 3.31. Although 675 drugs were routinely prescribed, only 603 were recorded as given. Of the balance of 72 drugs, 48 were prescribed to be given and were omitted and 24 were non-daily type routine prescriptions not prescribed for the day of the survey. Of the 711 drugs reported as received, 108 (15 percent) were prn prescriptions. Thus, the total number of drugs that it was possible for the patients in this study to receive was six. The mean number of drugs that were actually received on the given day by the patients was 3.31. The majority of drugs, 603 (85 percent) were routine prescriptions. Seven percent of all routine prescriptions were not recorded as received by the patient and constitute medication errors. The remaining 24 drugs were the routine drugs not scheduled to be given

on the day of the survey. Only 15 percent of all drugs received by the patient were prn drugs. These 108 prn drugs constitute 17 percent of all prn drugs that it was possible for the patient to receive.

Table 2
Number of All Drugs Prescribed and Received
214 Patients

Type of Prescription	Drugs Rec'd	Percent	Mean
Routine	603	85	2.81
Pro re nata	108	15	.50
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Total	711	100	3.31

The second question asked by this study was: What percentage of these (total) drugs are central nervous system drugs? Central nervous system (CNS) drug prescriptions accounted for 464 (36 percent) of all prescriptions written (See Table 3). The range was from 0 to 6 drugs per patient with a mean of 2.16. Of the 464 CNS drugs prescribed, 167 (36 percent) were prescribed on a routine basis. The remaining 297 (64 percent) were prescribed on a prn basis.

Table 3
Number of CNS Drugs Prescribed
214 Patients

Type of Prescription	CNS Drugs	Percent	Mean
Routine	167	36	.78
Pro re nata	297	64	1.38
Total	464	100	2.16

The number of CNS drugs reported as received by the patient is also smaller than the number of drugs prescribed. Of the 464 CNS drugs prescribed 217 (47 percent) were reported as received by the patient (See Table 4). The range was from 0 to 4 CNS drugs per patient with a mean of one. Of the 217 drugs reported as received by the patient, 154 (71 percent) were prescribed on a routine basis and 63 (29 percent) were prn drug prescriptions.

Table 4
Number of CNS Drugs Prescribed and Received
214 Patients

Type of Prescription	CNS Drugs Rec'd	Percent	Mean
Routine	154	71	.72
Pro re nata	63	29	.29
Total	217	100	1.01

The third question asked by this study was: What percentage of the (total) drugs are tranquilizers? Antipsychotic and antianxiety drugs (tranquilizers) accounted for 148 (11 percent) of all prescriptions written and were 32 percent of all CNS prescriptions (See Table 5). The range was from 0 to 3 drugs per patient and the mean was .69. Of the 148 antipsychotic and antianxiety drugs prescribed, 59 (40 percent) were prescribed on a prn basis.

Table 5
Number of Antipsychotic and Antianxiety Drugs Prescribed
214 Patients

Type of Prescription	Antipsychotic & Antianxiety Drugs Prescribed	Percent	Mean
Routine	59	40	.28
Pro re nata	89	60	.41
Total	148	100	.69

The number of antipsychotic and antianxiety drugs reported as received by the patient is also much smaller than the number of drugs prescribed. Of the 148 antipsychotic and antianxiety drugs prescribed, 75 (50 percent) were reported as received by the patient (See Table 6). The range was from 0 to 3 drugs per patient with a mean of .35. Of the 75 drugs reported as received, 59 (79 percent) were routine drugs and 16 (21 percent) were prn drugs.

Table 6
 Number of Antipsychotic and Antianxiety Drugs Prescribed
 and Received
 214 Patients

Type of Prescription	Antipsychotic & Antianxiety Drugs Received	Percent	Mean
Routine	59	79	.28
Pro re nata	16	21	.07
Total	75	100	.35

One hundred and forty-eight prescriptions for antipsychotic and antianxiety drugs were prescribed for 110 patients. Fifty-one percent of all patients had an antipsychotic or antianxiety drug prescribed. Sixty-eight (32 percent) patients received at least one antipsychotic or antianxiety drug. Thirty-four patients had two prescriptions and four patients had three prescriptions. Seven patients received two antipsychotic or antianxiety drugs. No patient received three. There were 24 prescriptions written for Thorazine and 38 prescriptions written for Mellaril. These 62 antipsychotic drugs constituted five percent of all prescriptions. The remaining three percent were other antipsychotic drugs (See Appendix D, p. 39 for a complete list of prescribed tranquilizers).

The fourth question asked by this study was: Does the diagnosis or clinical indication support the use of the antipsychotic or antianxiety drug? Of the 110 patients with antipsychotic and antianxiety drug prescriptions, 65 (58 percent) had a psychiatric diagnosis or clinical

indication for use of the drug stated on the physician's order sheet. The remaining 46 (42 percent) did not. The most frequent diagnoses were Organic Brain Syndrome or Chronic Brain Syndrome (28), followed by Senility or Senile Dementia (13), Anxiety-Depression (5), Psychoses (3), and Mental Retardation (3). There were also diagnoses of Alzheimer's Disease, convulsions, Manic-Depressive Reaction, Schizophrenia, and Paranoid Involuntional Disease. These diagnoses each appeared one time. Clinical indications for use of the antipsychotic and antianxiety drugs included restlessness, sleep, agitation, and muscle stiffness. Twenty-seven of the antipsychotic and antianxiety drugs were also prescribed at bedtime. All dosages of the antipsychotic and antianxiety drugs remained well within the lower range of usual prescribed dosages and 38 were below the lowest usual prescribed dosage (Cain & Cain, 1975).

CHAPTER IV

DISCUSSION

The U.S. Senate Report issued in 1975 stated that the nursing home patient on the average received approximately 4.2 different drugs per day, with a possible high of seven (p. 243). A pilot study by Brown, et. al., (1977), indicated an average of 5.75 drugs per patients, (N=188), in two homes for the elderly. The current study shows that an average of six drugs were prescribed per patient. The number reported as received was smaller, however, with a mean of 3.31 drugs per patient. The drugs reported as actually received by the patients rather than as prescribed are a reflection of the high proportion of prn drugs to routine drugs.

The large number of prn drugs are often an attempt to anticipate patient needs in the absence of the physician. As a result, nursing judgments as to the need for a drug are made when prn medications are available. The patients own request and/or other evidence of need determines the frequency and amount of prn medication use.

In this study, of the 675 routinely prescribed drugs, 48 that should have been administered were not recorded as having been received by the patient. The U.S. Senate Report mentions many defects in drug distribution systems that contribute to medication errors. However, it is not possible to make meaningful comparisons of these medication errors with the studies cited in the U.S. Senate Report. The Senate Report studies involved a different approach and different data collection methods. This study can only show that seven percent of all routinely prescribed drugs

were not reported as having been received by the patient.

The range of drugs reported as received by each patient was from 0 to 12. The Senate Report stated that "some persons have been found to receive as many as 18 drugs in 24 hours" (p. 243). The more drugs prescribed and taken the greater the risk of possible drug interactions. "Two or more drugs administered at the same time or in close sequence may act independently, interact to increase or diminish the intended effect of one or both of the drugs, or may cause a new or unexpected reaction" (The Medical Letter Reference Handbook, 1975, p. 3). Meyers, Jawetz, and Goldfien (1974), describe two factors that have led to the increase in the number and severity of drug reactions. First, more different and more potent drugs are in use each year and second, drug use is not as carefully monitored as it should be (p. 12). In a study of two institutions with 188 residents, 100 were identified as having the potential for drug-drug interactions (Brown et al. 1977). The full effect of drug reactions and interactions has yet to be determined in nursing homes, but hospital studies show that 15 to 30 percent of patients have one or more drug reaction during hospitalization. These same studies show that drug misadventures cause 30,000 deaths per year (U.S. Senate Report, 1975). So, the 0 to 12 range of drugs reported as received in this study indicates that while some patients are not at risk for possible drug interactions because no drugs were prescribed or taken, some may be at high risk especially if they are at the middle and upper end of the reported drug range.

The U.S. Senate Report states that Medicaid Drug Program figures

for Illinois, New Jersey, and Ohio for four months in 1970 put CNS drugs (including tranquilizers, sedatives, and analgesics) at 37 percent of total costs and 31 percent of total prescriptions. This study indicates that CNS drugs accounted for 36 percent of all prescriptions written, or five percent more than those of the GAO study. However, the 217 drugs recorded as received by the patients was about half of that prescribed. These figures indicate that on an average each patient received at least one CNS drug daily and could have received at least two, if prn orders were judged to be necessary. It is not within the scope of this paper to delineate all of the hazards of the various CNS drugs either singly, in combination together, or with other drugs. However, CNS drugs are primarily drugs that act on the regulatory centers of the brain that control basic body functions or cerebral cortex to control behavior, and carry serious risks along with the well known and documented therapeutic potential. However, this chart audit indicates that only 63 (23 percent) of all CNS prn prescriptions were recorded as given. This would seem to indicate conservative use of prn medication.

The U.S. Senate Report stated that tranquilizers made up almost 20 percent of all drug prescriptions. The word tranquilizer is used in the U.S. Senate Report to refer to both antipsychotic and antianxiety drugs (See Appendix C, p. 34 American Hospital Formulary Classification of Drug Categories). For the purposes of this paper the terms antipsychotic and antianxiety drugs were used to distinguish between these two pharmacologically different drugs. This study shows that antipsychotic and antianxiety prescription drugs were 11 percent of

total drugs, just one percent less than the GAO audit shows. Thorazine and Mellaril were named in the U.S. Senate Report as being the two most often prescribed antipsychotic drugs. This six percent figure is true for this study also with these two drugs accounting for six percent of all prescriptions. Other antipsychotic drugs accounted for an additional three percent and Valium, the most frequently prescribed antianxiety drug accounted for two percent of all drugs. The remaining antianxiety drugs accounted for less than one percent of all drugs.

Of the 110 patients for whom antipsychotic and antianxiety drug prescriptions were written, 65 (58 percent) had a psychiatric diagnosis or clinical indication for use. The remaining 46 (42 percent) did not. However, in reviewing the literature a question had been raised regarding whether a formal psychiatric diagnosis or clinical indication was necessary. Cooperstock stated that Levine had taken the position that "though psychotropic drugs are not primarily dispensed to persons with a psychiatric diagnosis, they are nonetheless prescribed appropriately when the physician's intent is examined" (1974, p. 30). Parry, et al, (1973) reported that the primary use of psychotropic drugs now is an adjunctive therapy. The contention is that psychotropic drugs are used appropriately as adjunctive therapy in a wide variety of cardiovascular and gastrointestinal disorders, alleviated anxieties and tensions that could cause exacerbation of the symptoms of the primary illness. Pharmacology textbooks, however, do not mention indications for use of the antianxiety and antipsychotic drugs to include adjunctive therapy of this kind (Meyers et al., 1974).

If, as reported, psychotropic drugs are used as adjunctive therapy primarily, then the absence of a psychiatric diagnosis would not necessarily indicate incorrect use of the psychotropic drugs. It was documented in the U.S. Senate Report that nursing home patients have, on the average, three or more chronic conditions (p. 245). It would appear from this information that patients in nursing homes may have conditions where a need for adjunctive therapy could arise. Therefore, it seems that no conclusions can be drawn by using as the criterion for correct use, that of having a psychiatric diagnosis.

CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The purpose of this investigation was to determine patterns of medication use in a randomly selected population of nursing home patients in Oregon. The role of the professional nurse in this setting was considered.

Data were collected from charts of patients in 17 nursing homes for a single 24 hour period. Comparisons of particular categories of medications were made with the GAO audit figures as they appeared in the Congressional Record of April 27, 1972 and the U.S. Senate Nursing Home Report of 1975. The number of drugs prescribed per patient in this study was six which was within the range mentioned in the U.S. Senate Report. This mean of six drugs was similar to that reported by Brown et. al., of 5.75, in their 1977 study. The percentage of CNS drugs prescribed was 36 percent as compared to the GAO audit of 31 percent. Anti-psychotic and antianxiety drugs totaled 11 percent which was one percent less than the GAO figure of 12 percent. The major difference was in the number of drugs recorded as received by the patients. In every instance the amount recorded as received was approximately one-half of the number of drugs that were prescribed. This was due to the large number of prn medications (48%) that comprised nearly one-half of the total number of drugs prescribed. This large number of prn medications is an indication

of the responsibility the professional nurse assumed in Oregon's nursing home setting. Fifty-eight percent of patients prescribed antipsychotic and antianxiety drugs had a psychiatric diagnosis or a clinical indication for use of the drug. Evidence has been presented that psychotropic drugs are used primarily as adjunctive therapy now. This creates doubt that a psychiatric diagnosis in itself is the primary evidence for proper usage of psychotropic drugs. In 38 cases, dosage amounts of antipsychotic and antianxiety drugs were below the lowest recommended dose, and dosages in all instances remained in the lowest third of that suggested therapeutic range.

Conclusions

Because of the large sample size and the characteristics of the setting, it appears reasonable to make several generalizations.

A considerable number of drugs was prescribed, but nearly one-half of the drugs prescribed was on a prn basis. Proportionately, small amounts of the prn drugs were given relative to the total amount available. It might be possible to reduce the number of drugs taken on a daily basis if more drugs were prescribed on a prn rather than a routine basis. Nurses would need continual updating in several areas to assume responsibility adequately. Information on the physiology and psychology of aging as well as pharmacology would be necessary on an on-going basis to ensure that the best possible decisions could be made.

Secondly, as Brown et al., (1977) pointed out, the potential for drug-drug interactions seems much more severe for the geriatric segment

of our population. This is due not only to the kinds and numbers of the drugs most often prescribed, but to the generally reduced ability, physiologically and psychologically of the patient to handle drugs. Patients with complex problems require frequent reviews of drug profiles to analyze and evaluate the current drug status plus physical assessment and mental assessments to assure optimum functioning. All patients require periodic assessments for maximum comfort and safety.

Recommendations

Recommendation for further study include:

1. A study to determine the types and numbers of potential drug-drug interactions utilizing this sample.
2. A longitudinal study correlating patient's mental status with the ingestion of psychotropic and sedative hypnotic drugs.
3. A study of nursing personnel and educational needs with emphasis on pharmacology, psychology, and physiology of aging.
4. A study to determine if the level of care (intermediate or skilled nursing home facility) affects the amounts and kinds of drug received.
5. A study to explore professional nurses use of prn drugs in nursing homes in relation to patient stated and unstated needs for those drugs.

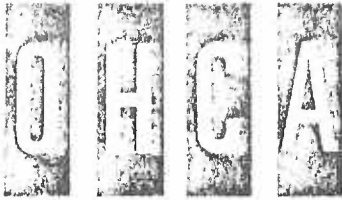
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APPENDICES

APPENDIX A
Letter of Permission
to Conduct Study



Oregon Health Care Association

JOHN E. RICHARD
Executive Vice-President

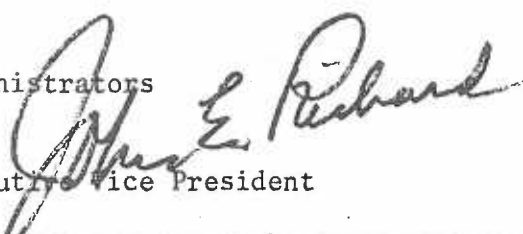
801 N. E. 28th AVENUE • PORTLAND, OREGON 97232 • 503/233 5373

December 9, 1975

MEMORANDUM:

To: All Nursing Home Administrators
in County

From: John E. Richard, Executive Vice President



This will introduce Ms. Violet Yager who is a graduate student of the School of Nursing, University of Oregon. Ms. Yager is currently undertaking her Masters of Nursing degree thesis.

Generally, the purpose of her study is to secure information relating to the use of psychotropic medications by the elderly in the nursing homes of County. As you know, the Moss report made serious charges of gross misuse of psychotropic drugs in nursing homes. Ms. Yager's many contacts with nursing homes to date indicate that the findings of the Moss report may be over stated.

Ms. Yager would need access to about 20 percent random sampling of all patients over 60 years of age in the nineteen nursing homes in County. Complete anonymity for individual patients and nursing homes is assured. A copy of the final thesis will be available to all homes participating in the study.

I would like to assure you that in my legal opinion this is a legitimate research project and that the right of access to patients' files for this purpose under the outlined circumstances is legitimate research use. I cannot see any opportunity for liability to the nursing home or to you as administrator in the release of the information under these controlled circumstances.

I therefore recommend that you cooperate with Ms. Yager in this study.

APPENDIX B
Data Collecting Forms

Facility No. _____

Patient No. _____

Information from Patient Records

(Questions 1 through 4 may be recorded from business office Records).

- 1. Date of most recent admission to this facility. _____
- 2. Birthdate. _____
- 3. Sex. _____
- 4. Current primary source of payment. _____
 - Personal Funds _____
 - Medicaid (SNF) _____
 - Medicaid (ICF) _____
 - Medicare _____
 - Other _____
 - Not available _____

5. Diagnosis
 (Record all diagnosis in order listed from most recent record which lists diagnosis. Use physician records only. Medex or nurse practitioner are considered physician surrogates).

Diagnosis or Problem	Date of Diagnosis	Record Illegible	Not Available	Tentative or Rule Out
1. _____	_____	_____	_____	_____
2. _____	_____	_____	_____	_____
3. _____	_____	_____	_____	_____
4. _____	_____	_____	_____	_____
5. _____	_____	_____	_____	_____
6. _____	_____	_____	_____	_____
7. _____	_____	_____	_____	_____
8. _____	_____	_____	_____	_____
9. _____	_____	_____	_____	_____
10. _____	_____	_____	_____	_____
11. _____	_____	_____	_____	_____
12. _____	_____	_____	_____	_____
13. _____	_____	_____	_____	_____
14. _____	_____	_____	_____	_____
15. _____	_____	_____	_____	_____

Medications:

- a. Complete for all medications.
- b. Record dosage as ordered, is: in units ordered as q4h, tid, etc.
- c. Record for single 24 hour period.

	Medication	Dosage Amt.	Ordered Freq.	Route of Administration	PRN	Other Dosage Amt.	Received Freq.	Route of Administration	PRN	Other
1.										
2.										
3.										
4.										
5.										
6.										
7.										
8.										
9.										
10.										
11.										
12.										
13.										
14.										
15.										
16.										
17.										
18.										
19.										

APPENDIX C
National Hospital Formulary
Drug Categories

General Accounting Office

Drug Category Sheet

The drug categories used in this research were those used in the General Accounting Office audit. These categories were contained in the American Hospital Formulary Service published by the American Society of Hospital Pharmacists (1975).

Antihistamine drugs

Antiinfective agents

Antineoplastic agents

Autonomic drugs

Blood Derivatives

Blood formation and coagulation

Cardiovascular drugs

Central nervous system drugs

Diagnostic agents

Electrolytic, caloric, and water balance

Enzymes

Expectorants and cough preparations

Eye, Ear, Nose, and Throat preparations

Gastrointestinal drugs

Gold Compounds

Heavy metal antagonists

Hormones and synthetic substitutes

General Accounting Office

Drug Category Sheet

Local anesthetics

Oxytocics

Radioactive agents

Serums, toxoids, and vaccines

Skin and Mucous membrane preparations

Spasmolytic agents

Vitamins

Unclassified therapeutic agents

Other unclassified agents

Central Nervous System drugs:

General anesthetics

Analgesics and antipyretics

Narcotic antagonists

Psychotherapeutic agents

 Antidepressants

 Tranquilizers

 Other psychotherapeutic agents

Respiratory and cerebral stimulants

Sedatives and hypnotics

General Accounting Office

Drug Category Sheet

Tranquilizers:

Atarax	Prolixin
Bucladin	Prozine
Combid	Serentil
Compazine	Serax
Deprol	Softran
Equagesic	Sotacen
Equanil	Sparine
Eskatrol	Stelazine
Fluphenazine dihydrochloride	Taractan
Haldol	Thorazine
Hydroxyzine	Tindal
Librax	Tranco-gesic
Librium	Trancopal
Mellaril	Trilafon
Menrium	Ultran
Meproamate	Valium
Meprospan	Vesprin
Meprotab	Vistaril
Miltown	
Navane	
Permitil	
Proketazine	

APPENDIX D
Summary of Antipsychotic
and Antianxiety Drugs
Prescribed and/or Received

Antipsychotic and Antianxiety Prescriptions by Patient

Pt. No.	Brand Name	Amount	Frequency	PRN	REG.	Dosage Received	Diagnosis or Indication for Use
1.	Thorazine	25 mg.	tid	X			Restlessness
4.	Mellaril	25 mg.	Lunch & Dinner		X	50 mg.	Psychosis
	Mellaril	100 mg.	hs		X	100 mg.	Chronic anxiety-depression.
6.	Mellaril	25 mg.	tid	X		75 mg.	
7.	Thorazine	10 mg.	hs.		X	10 mg.	Mental Retardation
8.	Mellaril	50 mg.	qid	X		200 mg.	Acute and Chronic Brain Syndrome
9.	Librax	1 cap.	qid	X		4 caps.	
10.	Valium	5 mg.	bid		X	10 mg.	Depression
13.	Haldol	0.5 mg.	tid	X		1.5 mg.	Chronic Brain Syndrome
14.	Sparine	25 mg.	q4h	X		50 mg.	Restlessness
15.	Thorazine	10 mg.	q4h	X		30 mg.	Chronic Brain Syndrome
19.	Mellaril	25 mg.	tid	X		75 mg.	Chronic Brain Syndrome
26.	Haldol	1 mg.	tid		X	3 mg.	Anxiety Depression
28.	Valium	5-10 mg.	hs	X			Not available
30.	Mellaril	25 mg.	qid	X			Sleep
	Mellaril	50-100 mg.		X			Chronic Brain Syndrome
31.	Prolixin	25 mg.	q3wks		X		Extreme Agitation
32.	Mellaril	25 mg.	tid	X			Senile Dementia
33.	Serentil	25 mg.	tid	X		75 mg.	Organic Brain Syndrome
34.	Mellaril	50 mg.	tid	X			Psychosis
35.	Navane	5 mg.	tid	X		15 mg.	Organic Brain Syndrome
	Compazine	25 mg.	tid rectal	X			
36.	Mellaril	25 mg.	qd	X			
	Mellaril	25 mg.	q4h	X			
	Mellaril	100 mg.	hs	X			
38.	Thorazine Liq.	100 mg.	hs	X			
39.	Mellaril	25 mg.	q4h	X			
	Thorazine Span.	75 mg.	q8h	X			
	Thorazine	50 mg.	IM	X		225 mg.	Depression
40.	Mellaril	100 mg.	hs	X		50 mg.	Agitation
	Mellaril	50 mg.	bid	X		100 mg.	Chronic Brain Syndrome
				X		100 mg.	Psychosis Depression

Pt. No.	Brand Name	Amount	Frequency	PRN	REG.	Dosage Received	Diagnosis or Indication for Use
41.	Valium	2.5 mg.	hs	X		2.5 mg.	Convulsions
42.	Librium	5 mg.	tid	X		15 mg.	
43.	Sparine	25 mg.	q4-6h	X			
44.	Mellaril	25 mg.	hs	X			Chronic Brain Syndrome
46.	Thorazine	25 mg.	8am-12noon	X		25 mg.	Chronic Brain Syndrome
	Thorazine	75 mg.	hs	X		50 mg. 75 mg.	
47.	Sparine	25 mg.	q4h	X		3 mg.	Depression
50.	Haldol	1 mg.	tid	X		4 mg.	
	Stelazine	2 mg.	q12h	X			
51.	Librium	50 mg.	tid	X			Restlessness
53.	Mellaril	25 mg.	hs	X			Organic Brain Syndrome
	Mellaril	25 mg.	hs	X			Organic Brain Syndrome
	Mellaril	25 mg.	hs	X			Vascular Disease
56.	Thorazine	25 mg.	q4h	X			Chronic Senility
58.	Thorazine	50 mg.	q4h	X			Not available
60.	Softran	1	5PM	X			Senile Cerebroarteriosclerosis
63.	Mellaril	10 mg.	tid	X		1	Agitation
	Compazine	10 mg.	IM	X			
	Valium	5-10 mg.	q6h	X		10 mg.	
65.	Mellaril	10 mg.	bid or tid	X		20 mg.	
	Valium	10 mg.	hs	X			
	Valium	5 mg.		X			
66.	Thorazine	50 mg.	qid	X		4 mg.	Muscle Stiffness
67.	Stelazine	2 mg.	bid	X			Psychosis with Cerebroarterio-
	Haldol	1 mg.	tid	X		2 mg.	sclerosis
	Valium	2 mg.	tid	X		50 mg.	
70.	Mellaril	25 mg.	tid	X			
	Thorazine	50-75 mg.	qid	X			Chronic Brain Syndrome-Ment. Ret.
71.	Mellaril	25 mg.	qid	X		100 mg.	
73.	Mellaril	25 mg.	tid	X		75 mg.	
74.	Mellaril	25 mg.	tid	X		75 mg.	
75.	Mellaril	10 mg.	qid	X		40 mg.	Senility-Chronic Brain Syndrome

Pt. No.	Brand Name	Amount	Frequency	PRN	REG.	Dosage Received	Diagnosis or Indication for Use
77.	Stelazine	2 mg.	bid		X	4 mg.	Chronic Brain Syndrome
78.	Stelazine	2 mg.	qid		X	6 mg.	Chronic Brain Syndrome
	Mellaril	50 mg.	tid				
80.	Quide	25 mg.	qid	X	X	100 mg.	Chronic Brain Syndrome
81.	Valium	5-10 mg.	qid				
82.	Valium	10 mg.	bid	X			
83.	Valium	10 mg.	bid	X			
84.	Mellaril	50 mg.	hs (MRX1)				
85.	Thorazine	25-50 mg.	q4-6h	X	X	50 mg.	Chronic Brain Syndrome
	Compazine	5 mg.	q6-8h				Arteriosclerosis with Senility
88.	Valium	5-10 mg.	hs	X	X	5 mg.	
	Thorazine	25 mg.	q4h	X			
90.	Mellaril	10 mg.	tid	X	X		
	Mellaril	25 mg.		X			
92.	Valium	5-10 mg.	hs q4-6h	X	X		
93.	Valium	2 mg.	tid				
94.	Valium	5 mg.	q4h				
	Valium	10 mg.	hs	X	X	6 mg.	Chronic Brain Syndrome
95.	Softran	1 or 2 caps		X			
96.	Mellaril	25 mg.	tid	X	X		
	Valium	5-10 mg.	qid	X	X		
	Valium	5mg/cc	qid IM	X	X		
97.	Valium	5 mg.	tid	X	X	5 mg.	
101.	Valium	2 mg.	tid	X	X		
102.	Stelazine	2.5 mg.	tid	X	X		
106.	Thorazine	25 mg.	q6h	X	X		
107.	Valium	10 mg.	tid	X	X		
109.	Stelazine	1 mg.	q3-4h	X	X		
113.	Mellaril	25 mg.	q12h	X	X		
114.	Mellaril	25 mg.	qam 7hs	X	X		
116.	Haldol	2 mg.	qd				
117.	Librium	25 mg.	tid				
118.	Valium	5 mg.	hs	X	X	50 mg.	Chronic Brain Syndrome & Confusion
121.	Mellaril	25 mg.	q4h	X	X	25 mg.	Senility
			hs	X	X	25 mg.	

Pt. No.	Brand Name	Amount	Frequency	PRN	REG.	Dosage Received	Diagnosis or Indication for Use
122.	Valium	2 mg.	q8h	X			
123.	Valium	10 mg.		X			Restlessness
	Valium	5 mg.	qid		X	20 mg.	Chronic Brain Syndrome
124.	Navane	5 mg.	qid		X	20 mg.	
127.	Mellaril	25 mg.	hs		X	25 mg.	Schizophrenia
	Mellaril	50 mg.	hs		X	50 mg.	
128.	Prolixin	25 mg/cc.	q2wks		X		
	Thorazine	200 mg.	hs		X	200 mg.	Paranoid Involuntional Melancholia
133.	Mellaril	25 mg.	tid	X		50 mg.	Organic Brain Syndrome
	Mellaril	50 mg.	hs	X		50 mg.	
134.	Mellaril	25 mg.	tid	X		75 mg.	
135.	Valium	5 mg.	12 noon		X	5 mg.	
	Valium	5 mg.		X			
136.	Prolixin D.	25 mg/cc.	q2wks IM		X		
	Valium	5 mg.		X		5 mg.	Organic Brain Syndrome
137.	Thorazine	25-50 mg.	q6h IM		X	75 mg.	
140.	Chlorpromazine	25 mg.	tid		X		
141.	Haldol	2 mg.	hs	X			Senility
	Haldol	10 mg.	qid		X	40 mg.	Senile Dementia
	Haldol	2 mg.	bid		X	4 mg.	
142.	Haldol	0.3 mg.	tid		X	0.9 mg.	Presenile Dementia
148.	Compazine	5 mg/cc.	IM	X			
154.	Haldol	1.2 mg.	q6h	X			Cerebral Atrophy
160.	Haldol	2 mg.		X			Senile Dementia
161.	Valium	5 mg. (MRX1)	hs	X			
163.	Mellaril	25 mg.	hs	X		25 mg.	Chronic Brain Syndrome
166.	Haldol	0.5 mg.	bid		X	1 mg.	
167.	Valium	5 mg.	hs		X		
172.	Navane	2 mg.	tid		X	6 mg.	Psychogenic Headache, Depressive Reaction
175.	Atarax	25 mg.	qid		X	100 mg.	
177.	Valium	10 mg.	hs		X		
179.	Chlorpromazine	50 mg.	tid		X	150 mg.	Chronic Brain Syndrome
181.	Mellaril	10 mg.	hs		X	10 mg.	Mental Retardation & Seizure Dis.
182.	Valium	5 mg.	q4h		X		Advanced Senility
							Restlessness

Pt. No.	Brand Name	Amount	Frequency	PRN	REG.	Dosage Received	Diagnosis or Indication for Use
183.	Chlorpromazine	50 mg.	qid		X	200 mg.	
186.	Mellaril	25-50 mg.		X	X	50 mg.	
187.	Thorazine	10 mg.	bid		X	10 mg.	
192.	Mellaril	25 mg.	q4h				Old Age
197.	Thorazine	25 mg.	bid	X	X	50 mg.	Senility, Agitation
198.	Stelazine	1 mg.	tid		X	3 mg.	Senile Dementia
	Mellaril	50 mg.	tid		X	150 mg.	Organic Brain Syndrome
201.	Compazine	5 mg.	qid IM	X			
202.	Mellaril	25 mg.	tid	X			
203.	Thorazine	25-50 mg.	tid	X			Slightly Disoriented
	Mellaril	50 mg.	qid	X			Senility, Organic Brain Syndrome
204.	Haldol	1 mg.	qd		X	1 mg.	
205.	Stelazine	1 mg.	tid 1/2 hac		X	15 mg.	Chronic Brain Syndrome
	Compazine	5 mg.	tid		X	5 mg.	
208.	Thorazine	2 mg.	tid		X	20 mg.	Chronic Brain Syndrome
210.	Serentil	10 mg.	bid	X	X	2 caps.	
	Combid Span.	1 cap.	bid		X		

AN ABSTRACT OF THE INVESTIGATIVE STUDY OF


VIOLET YAGER

for the Master of Nursing

Date of Receiving this Degree: June, 1977

Title: MEDICATION PATTERNS IN NURSING HOMES

Approved:


Barbara Gaines, Associate Professor
Clinical Investigation Advisor

This study investigated medication use by nursing home patients in an urban-rural county of Oregon. Seventeen nursing homes participated in the study using a 20 percent random sample of all patients aged 65 and over. The sample size was 214 patients. Drugs prescribed and/or drugs administered during a single 24 hour period were recorded from information obtained from patient charts.

Results were compared with the U.S. Senates' Special Committee on Aging, Government Accounting Office (GAO) report. Total amounts prescribed, CNS drugs prescribed, and tranquilizers prescribed were similar to the GAO report. The number of medications reported as administered was about one-half of the number prescribed for the above mentioned categories. This was because 48 percent of all drugs were prescribed on a pro re nata (prn) basis. All drugs given were in the lower one-third of dosage range. The large number of prn prescriptions and the infrequent

visits of the physician combine to create a situation where nursing judgments are frequent. Current knowledge of pharmacology, as well as knowledge of the physiology and psychology of aging are essential to make correct assessments of patient needs.

Additional studies are needed: 1) to examine potential drug-drug interactions in patients receiving multiple medication, 2) to correlate patients mental state with the ingestion of psychotropic and sedative hypnotic drugs, 3) to determine nursing personnel educational needs with emphasis on pharmacology, psychology and physiology of aging, 4) to determine if the level of care is correlated with amounts and kinds of medications, 5) to explore professional nurses use of prn drugs in nursing homes in relation to patient stated and unstated needs for those drugs.