FECAL IMPACTION IN THE ELDERLY

by

/ Lois Grey Averitt

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STATEMENT BY AUTHOR

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SIGNED: Laci J. Currall

APPROVAL BY THESIS DIRECTOR

This thesis has been approved on the date shown below:

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August 3, 1977
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TABLE OF CONTENTS

| LIST OF TABLES ........................................... vi |
| LIST OF ILLUSTRATIONS ................................. vii |
| ABSTRACT .................................................. viii |

CHAPTER

1. INTRODUCTION ............................................. 1
   Statement of the Problem ................................. 3
   Significance of the Problem ............................... 4
   Conceptual Framework ...................................... 6
   Definition of Terms ....................................... 11

2. REVIEW OF THE LITERATURE ............................... 13
   Summary of Literature Review ............................ 18

3. METHODOLOGY OF THE STUDY .............................. 19
   Design of the Study ...................................... 19
   The Setting .............................................. 20
   The Sample .............................................. 20
   Method of Data Collection ................................ 20
   Data Collection Tools .................................... 22
   Protection of Human Rights ............................... 23

4. PRESENTATION AND ANALYSIS OF DATA ..................... 25
   Characteristics of the Sample ........................... 25
       Diagnoses .............................................. 26
       Length of Hospital Stay ............................... 31
       Results of Digital Examinations ...................... 32

5. FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS .......... 34
   Summary of Findings ...................................... 34
   Field Problems Encountered During the Study ............ 35
   Conclusions .............................................. 36
   Recommendations for Future Study ....................... 37

iv
<table>
<thead>
<tr>
<th>TABLE OF CONTENTS—Continued</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. SUMMARY</td>
<td>39</td>
</tr>
<tr>
<td>APPENDIX A. ADMISSION CHECK LIST—Fecal Impactions</td>
<td>41</td>
</tr>
<tr>
<td>APPENDIX B. DATA COLLECTION SHEET—Time and Resolution of Impaction</td>
<td>43</td>
</tr>
<tr>
<td>APPENDIX C. SUBJECT CONSENT FORM</td>
<td>44</td>
</tr>
<tr>
<td>APPENDIX D. STANDING ORDER APPROVAL</td>
<td>45</td>
</tr>
<tr>
<td>APPENDIX E. HUMAN SUBJECTS APPROVAL</td>
<td>47</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>49</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Distribution of Subjects by Sex</td>
<td>25</td>
</tr>
<tr>
<td>2.</td>
<td>Distribution of Subjects by Age</td>
<td>26</td>
</tr>
<tr>
<td>3.</td>
<td>Comparison by Age and Sex of Subjects</td>
<td>27</td>
</tr>
<tr>
<td>4.</td>
<td>Frequency of Specific Diagnoses in Study Population</td>
<td>28</td>
</tr>
<tr>
<td>5.</td>
<td>Length of Hospital Stay for Subjects</td>
<td>32</td>
</tr>
<tr>
<td>6.</td>
<td>Findings Upon Digital Examination</td>
<td>33</td>
</tr>
</tbody>
</table>
## LIST OF ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Diagramatic Representation of the Problem of Impaction</td>
<td>7</td>
</tr>
</tbody>
</table>
ABSTRACT

This study attempted to determine the extent of the problem of fecal impaction among persons aged 50 and over, admitted to a long term care setting from an acute care facility, and to test a standing order for resolution of the fecal impaction problem.

The sample consisted of 23 persons, ages 55 to 94 years. There were 18 women and five men included in the study group.

The findings indicated that these older persons spent such an extended period of time in the hospital that their problems of disordered intestinal motility occurred in that setting rather than after transfer to the nursing home. The average length of stay was 58.89 days in the hospital.

No patients were found to have fecal impactions upon admission to the nursing home, therefore there was no opportunity to test the standing order.

The contribution to nursing, at this point, would seem to be that even in the acute care setting, the nurse must understand and apply principles of care of the chronically ill older person.

This study also has implications that are community-wide in terms of inappropriate expenditure of
tax dollars to provide a level of care which is higher than that required.
CHAPTER 1

INTRODUCTION

Constipation and impaction represent an administrative and procedural burden for those institutions concerned with the care of the aged. Many changes which may occur with the aging process possibly contribute to the problem of constipation and ultimately to impaction. The older person with an intact memory and a routine for the activities of daily living is in little jeopardy of these problems. However, once confronted with injury or illness, and the possibility that the treatment may require removal from familiar surroundings, the likelihood of constipation and the potential for impaction become very real.

With injury or illness the older person may suddenly have thrust upon him an alteration in activities of daily living. There may be a disruption of his normal bowel patterns and dietary modifications to manage the illness or injury may further disrupt normal body function. If the situation requires that he be immobilized, a resultant decrease in peristalsis occurs.

In addition, the condition may require one or more drugs for which constipation is known to be a side effect, and he may not have access to any drugs normally used to
correct his constipation problems. When there is also a problem of dehydration and general apprehension about the injury or illness, as well as sensory impairment, the potential for the problem becomes even greater.

All of these factors are thought to have an effect on the motility of the intestinal tract. If, as a normal course of events or as a result of the psychological stress involved, the person suffers a memory loss and/or is unable to remember events well enough to discuss the problem with the physician, the staff, or those caring for him, he becomes totally dependent upon those around him to recognize the constipation problem before it becomes critical. Should he be fortunate enough to be cared for by persons who are aware of his normal bowel habits and the rapidity with which the constipation problem can lead to impaction, he is unlikely to suffer the discomfort and indignity of the process of resolution.

When one considers, however, the events likely to cause injury or illness in the older person, i.e., strokes, falls, fractures, it is immediately apparent that hospitalization will be required at least for diagnosis and initial treatment. Looking beyond this to the documented attitudes of health care personnel toward the older person, and considering the unesthetic problem of constipation, the patient may be categorized as "at risk" related to the potential for impaction.
In facilities where routines have been developed and adapted specifically for older persons, the chances are excellent that this problem will be avoided. In acute care settings, however, frequently the emphasis is on diagnosis, treatment, and short term care. The older person, with a fragile margin of functional ability, may develop problems with bowel function rapidly that go unnoticed to the point of impaction.

Relatively little attention has been given to the best approach to resolving an impaction once it has reached that stage. The physician may leave an order for a suppository or an enema, but when these approaches do not work, the nurse is generally left to correct the problem with little or no theoretical knowledge and less available information on which to base action.

**Statement of the Problem**

Given a population of persons age 50 and above, transferred to a long term care setting from an acute care setting, the purpose of the study is to elicit data on several questions related to the problem.

1. What percentage of patients, age 50 and over admitted to a specific long term care setting, from an acute care setting, had fecal impactions on arrival?
2. Using the standing order for fecal impactions, what percentage were resolved at which steps in carrying out these orders?

3. Given that the last resort for the nurse on the standing order is a digital removal of impacted feces, what percentage of the patients in the study population underwent this procedure?

4. What percentage of the patients, if any, were referred to a physician for resolution of the problem?

5. Was there a relationship between the total number of patients assessed as impacted and age, sex, or diagnosis?

Significance of the Problem

It was not the purpose of this study to consider etiology related to lesions, neurological, metabolic, or endocrine disorders, but rather consider the problem as it exists for many older persons having disruption of activities of daily living through the process of admission to an acute care facility and then being transferred to a nursing home. The problem of what to do about impactions arises fairly regularly because of the multiple factors causing constipation, and because ignoring them may lead to impaction. Because it is an unpleasant subject, unfashionable for research, and relegated to
descriptions in four-letter slang terminology, little or no attention has been paid to effective methods of removing an impaction which does not have some exotic etiology.

Procedures, usually digital removal, used for resolving fecal impaction have the potential to be very traumatic to the patient, both psychologically and physiologically. The intestinal mucosa may be damaged resulting in bleeding with the possibility of infection. Complications of the unresolved impaction may lead to urinary tract obstruction, spontaneous perforation of the colon, volvulus, megacolon, rectal prolapse, and intestinal obstruction. Obviously, several of these complications represent life threatening situations. The psychological trauma and indignity of resolving this problem can only add stress at a time when adaptive mechanisms may be limited. Confusional states in the elderly, as a result of fecal impaction, are documented in the literature.

Another important complication of constipation/impaction results from straining to pass a stool. Adverse effects of straining have been clearly demonstrated on the coronary, cerebral, and peripheral arterial circulation. In the elderly with cerebrovascular disease, transient ischemic attacks are known to occur in those patients with impaired baroreceptor reflexes and a tendency to postural hypotension. The Valsalva maneuver, produced by straining at stool may cause the patient to develop syncope. This
mechanism may account for the not infrequent history of finding the patient on the bathroom floor.

For the older person, particularly the immobile older person, the risk exists and there is little known on the efficacy of means to resolution. The study should benefit the patients because the nurse caring for them will have a clearer understanding of approaches which may be employed to resolve the impaction with a minimum of trauma to the patient.

Conceptual Framework

There is generalized agreement that constipation precedes impaction. Therefore, causes of constipation will be considered along with possible reasons why resolution sometimes does not occur before it becomes an impaction. Figure 1 is a diagram of the conceptual framework for the study. The focus of this framework utilizes statements by several authorities in the field of geriatric medicine on causes of constipation leading to fecal impaction. As stated elsewhere, specific disease processes related to these two entities have been excluded. The overall concepts of the study were those of decreased intestinal motility and inadequate emptying. The decreased motility may be related to dietary alteration, immobility, inadequate fluid intake, certain classifications of drugs, mental health problems, and laxative abuse, shown as
Figure 1. Diagramatic Representation of the Problem of Impaction
causative factors in Figure 1. The inadequate emptying may have to do with sensory impairment, mental health, and poor abdominal musculature.

According to Rossman (1971), the aged are predisposed to constipation because of physical inactivity, weakness, inadequate fluid intake, and excessive preoccupation with bowel movements. Medication frequently taken by the aged person, such as aluminum hydroxide gels, sedatives, and opiates may be contributory. Depression, which is common in the elderly, is often accompanied by constipation. Regular ingestion of mineral oil and cathartics may develop into a compulsive habit. This sometimes is compounded by a devotion to the enema as a means of getting rid of supposed poisons or other noxious material, all of which may lead to chronic constipation.

Steinberg (1976) suggests that constipation occurs in at least 25 per cent of elderly patients. The contributing factors, in his opinion, include the lack of sufficient bulk in the diet to stimulate peristalsis, the abuse of laxatives, decreased fluid intake, decreased muscle tone, and motor function of the bowel. Blunting or loss of defecatory reflex as a consequence of neglect of the urge to defecate may also be a factor, as well as poor dentition (limited variety and mastication of food); prolonged immobilization associated with fractures or paralyses; and the use of medications such as sedatives or
tranquilizers, anti-hypertensive and ganglionic blocking agents, narcotics, calcium carbonate antacid. Although there is no consistent alteration of bowel frequency with advancing age, the ingestion of laxatives increases significantly with aging. Steinberg also indicates that in one study, people over 70 years of age used laxatives twice as frequently as those in the age group from 40 to 50 years. Cummings (1974) in his study concurs that 15 to 30 per cent of persons over age 60 take more than one laxative dose weekly and over 90 per cent of these are women.

Brocklehurst (1973) is of the opinion that there is no evidence to support the impression that people tend to become more constipated as they get older. The elderly population was probably brought up, he feels, with emphasis on the virtue of regular and frequent bowel actions with at least once weekly purgation or laxative-taking. There is also evidence that the elderly have great anxiety about bowel movements. Many older people are constipated and even more are convinced that they are. Drugs, depression, decrease in roughage in the diet, muscular degeneration, immobility, and decreased transit time also tend to increase the problems of constipation/impaction, according to Brocklehurst.

Other authors, among them Earnest and Sleisinger (1973), stated that incomplete evacuation of feces over an extended period may lead to formation of a large, firm,
immovable mass of stool in the rectum, a fecal impaction. The rectosigmoid becomes dilated and the firm irregular mass is not plastic enough to be expelled through the disproportionately small anal canal, by the patient's often weak defecatory effort. This is frequent in elderly, debilitated, and sedentary persons and is highest among the institutionalized geriatric patients.

Christensen (1971) also notes that motor mechanisms in the gastrointestinal tract are poorly understood. The subject has been studied since the beginning of modern medicine but is only a little clearer now. Such common and frustrating problems as functional bowel syndrome may prove to be primarily organic motor disorder but the explanation of the pathogenesis requires new ideas and new methods.

Constipation becomes an impaction in the elderly for multiple reasons. Reichel (1965) confirms that the margin of function in the older person is so narrow that possible hazards of the process of hospitalization should be given careful thought if this approach to treatment is under consideration.

Campbell (1971) and Palmer (1976) are in agreement that negative attitudes of health care providers toward the geriatric patient may be a contributing factor to many problems faced by the elderly in an acute care setting.

The emphasis in the acute care setting is on diagnosis and treatment and certain disruption of body
functions can be expected with changes in fluid, diet, and activity due to the process of the diagnosis or treatment. Little is understood of the extent of fragile margin of function in the older person so that it seemed logical that the problem of constipation/impaction was more likely to develop in the acute care setting that is a setting where chronicity is the primary focus. In the long term care setting, the staff is generally well aware of this problem and does not have the distraction of diagnostic tests and treatment seen in the acute care setting so that diet, bodily function, and supportive care are the main focus.

Once the impaction is discovered, the nurse in the long term care setting usually has a standing order from which to work. There is no research to validate one procedure over another, only subjective ideas about what is effective. When the order does not attain the desired result, nurses resort to digital removal. Despite some scientific advancement, people do become constipated with resultant fecal impaction. The problem is repugnant to the staff who have to deal with it and effective methods for resolution have certainly not been a fashionable topic for research.

Definition of Terms

For purposes of this study, the following definitions were used:
1. **Acute care setting**: Any hospital caring for the acutely ill.

2. **Aged person**: Age 50 or over.

3. **Constipation**: A condition characterized by passage of a hard stool at abnormally infrequent intervals.

4. **Impaction**: A collection of hardened feces firmly wedged in the rectum.

5. **Long term care facility**: A facility which operates to care for the aged or chronically ill who are unable to manage by themselves.

6. **Resolution**: An act or process of reaching subsidence of a pathological state.
CHAPTER 2

REVIEW OF THE LITERATURE

This chapter includes a selected review of the literature related to the problem and resolution of fecal impaction in patients transferred to the long term care setting from the acute care setting. Because so little research has been done on the problem of impaction in the elderly, it was necessary to consider the etiological aspects of constipation in this review of the literature and then search for reasons why the impaction might possibly develop. Further literature review was done to develop a standing order that could be tested during the study.

According to the literature, the components of decreased intestinal motility and incomplete emptying are related to immobility, diet, dehydration, drugs, misuse of laxatives, mental health, and sensory impairment.

The concept of immobility as it relates to intestinal motility in the elderly was discussed by several authors. The aged person put to bed for any reason with resultant physical inactivity or prolonged bed rest is predisposed to constipation, according to Rossman (1971); Dresen and Kratzer (1959); Anderson (1976); and Jones,
Gummer, and Lennard-Jones (1968). In studies reported by Brocklehurst and Khan (1969), bedfast and/or chairfast geriatric patients had intestinal transit times as much as three times greater than the active elderly. Hyams (1974) and Sodeman and Sodeman (1967) attest that transit time through the intestine is slowed in old age. Lack of physical activity with subsequent weakened abdominal musculature, poor muscle tone, and diminished defecatory reflexes compound the problem, according to Hyams (1974), Smith and Evans (1961), and Sodeman and Sodeman (1967). This literature also supports the premise that constipation/impaction may be due to the impaired process of defecation seen in the debilitated patient due to the neglect of call to stool.

The aging process may impose dietary deficiencies such as a low residue diet with insufficient bulk, inadequate intake or excessive fluid loss, according to Rossman (1971), Dresen and Kratzer (1959), Sklar (1972), Smith and Evans (1961), and Freeman (1963).

Burkitt (1970) and Hyams (1974) agree that unab​-sorbable cellulose in the diet increases stool bulk, facilitating passage since feces consist of indigestible fiber (cellulose), cellular debris, bacteria, and water. Poor dentition, ignorance, and cost of foods add to the dietary inadequacies in many instances (Hyams, 1974).
Predisposition to constipation is prevalent in the aged due to inadequate fluid intake and sometimes due to fear of urinary difficulties (Rossman, 1971; Hyams, 1974). Sulman (1976) indicates that in dry warm air, fluid loss through perspiration can rise from the normal 25 per cent of the overall fluid flow to as much as 50 per cent thus contributing to dehydration in the elderly.

Habitual use of cathartics may act as a nidus for the development of an impaction (Smith and Evans, 1961; Sklar, 1972; Dresen and Kratzer, 1959). The ingestion of laxatives increases significantly with aging (Steinberg, 1976). Sklar (1972), Almy (1951), Smith and Evans (1961), and Huber (1975) agree variously, that emotion, tension, fear of disease, sadness, dejection, confusional syndromes, and diffuse organic disease of the brain diminish the defecatory reflex.

Delay or decrease in motor function and nerve conduction with advancing age are mentioned in nearly every textbook on the physiology of aging. Dresen and Kratzer (1959) believe that slowed neural conduction produces delayed emptying of the colon and thereby predisposes to fecal impaction.

Drugs used in the management of various problems of the elderly and likely to have constipation as a side effect are aluminum hydroxide and calcium carbonate used as antacids; codeine and morphine and their derivatives;
antispasmodic drugs; tranquilizers; sedatives; and iron preparations, according to Hyams (1974) and Freeman (1963).

Reichel (1965), in a study of 500 elderly hospitalized persons, points out that 180 of these people developed complications, both mental and physical, during their hospital stay, which were unrelated to the original reason for hospitalization because of their narrow margin of function. In other words, 36 per cent of the persons in this study had problems related to the lack of resiliency. Reichel cautions physicians to consider these factors in the decision of whether or not to hospitalize the older American.

Brown (1970) writes that the nursing profession has shown limited interest in the aged or in long term care. Findings of several studies indicate that nurses generally prefer to avoid working with the aged. Heller and Walsh (1976) point to Elmore's study in which she found that the attitudes of nurses toward aging and the aged person are prominent among the common problems which affect the quality and quantity of nursing care given to geriatric patients.

A study of the attitudes of nursing personnel in acute care settings toward the geriatric patient done by Campbell (1971) revealed that registered nurses spend less time caring for the older patient than non-professional health care workers. Licensed practical nurses and nursing
assistants prefer working with the older patient more so than registered nurses and shifts or salary increases do not change these attitudes. Licensed practical nurses and nursing assistants are task- and skills-oriented, usually with limited assessment skills. Since these technically-oriented people do much of the patient care even in the acute care setting, the problem of assessment of constipation with impending impaction may go unnoticed.

The attitude of physicians as stated by Palmer (1976) indicated that when a patient complains of constipation, the image of hard stools is automatically projected and generally the matter is not pursued. He finds that it is a rare nursing home physician who takes the matter seriously or who does routine rectal examinations as much as once a year, thus indicating that the problem or potential problem is ignored if possible.

Godding (1973) recommends the following procedure for treatment of fecal impaction:

1. Disposable enema.
2. Bisacodyl suppository inserted high in the rectum.
3. Repeat in two hours if no result.

Deshmukh (1975) indicated that perforation of the colon is more likely with enemas than with suppositories and Corman (1975) stated that the relative efficacy of
enemas versus suppositories is open to question. Also, a suppository is easier to administer and probably more acceptable to both the patient and the nurse. For these reasons, it appears that giving the suppository first would be superior relative to the above procedure as outlined by Godding (1973).

An editorial in Patient Care ("When Your Patient Says, 'Dr., I'm Constipated'," 1969) recommended the use of a rectal tube to place the retention enema above the mass. Jones (1976) says that the retention enema should be oil rather than water or other substance. Each reference mentioned suggests digital removal only as the last resort.

Summary of Literature Review

This review of the literature related the multiple causative factors in constipation and considered several circumstances which complicate the problem thus contributing to the possibility of impaction.

The literature on resolution of impaction is reported as validation for the standing order prepared for use in this study.
CHAPTER 3

METHODOLOGY OF THE STUDY

This chapter presents the design of the study, the setting and sample, the tools, and statement relative to the protection of human rights.

Design of the Study

A descriptive design was selected because little or no objective information existed as to the extent of the problem, means to resolve it, or the usefulness of one method for resolution over another.

The study attempted to determine the prevalence of fecal impaction in older persons who were admitted to a long term care setting from an acute care setting and to validate a standing order for resolution.

To determine whether or not the patient was impacted, a digital examination was done as part of the assessment for admission to the long term care facility if accurate data as to the date of the last bowel movement could not be otherwise ascertained.

The literature reviewed indicated that there were many causative factors for constipation and impaction and
that every effort should be made to resolve the impaction before resorting to digital removal.

The Setting

The study was conducted in a 194-bed long term care facility in the Southwest. This facility was selected because most of the patients were admitted directly from an acute care setting.

The Sample

The sample consisted of 23 patients who were at least 50 years of age and were admitted to the long term care facility directly from an acute care setting. There were five men and 18 women who were willing to participate in the study. A total of 32 patients were admitted to the long term care setting during this study but nine of these persons were excluded because they were too young (3), refused to participate (4), or did not come directly from an acute care setting (2).

Method of Data Collection

The researcher contacted the director of nursing service in the long term care setting to describe the study and ask permission to conduct it in that institution. Permission to do the study was given and the standing order was then submitted to the staff physician of the facility for his approval. After the physician approved the standing
order, a meeting was held with the nursing staff to introduce the researcher and the alternate data collector and to describe the plan and purpose of the study.

Based on this meeting, arrangements were made for the researcher or alternate to check with the facility by telephone daily to determine if there was to be a new admission who fitted the criteria for inclusion in the study. If these findings were positive, the researcher or alternate did the admitting assessment for the long term care facility within three hours of admission and when consent could be obtained, completed the form for inclusion in the study.

Data collection was standardized between the two researchers by describing possible findings, based on experience, and coming to an agreement as to description. In addition, four patients were selected randomly in the study and the registered nurse on duty in the facility was asked to make an assessment. Results were compared for content and consensus validity.

Criteria for assessing the patient as impacted were a large, firm, immovable mass of stool in the rectum, and palpable upon digital examination. The previous stool was to have been more than four days prior (excluding spurious diarrhea, which is a sign of fecal impaction). Otherwise, a notation was made as to the amount and consistency of fecal material in the anal canal.
After each patient was admitted, a staff member and the researcher or alternate greeted the patient, explained the requirement for the assessment, and then asked them if they would be willing to participate in the study, explaining that it only meant recording on another form, some information that would be collected during the required assessment process.

Data Collection Tools

Two tools were developed by the investigator for collection of data in this study. The first was an assessment tool developed after reviewing literature pertinent to the study topic. It was designed to elicit information from the patient, records, or significant other, relative to the date of the last bowel movement. In each step, it defined the point at which it became necessary to check for a fecal impaction. If the patient had not had a bowel movement for four days or accurate data were not available, the patient was checked by doing a digital examination. All relevant findings were recorded on this form. Additional data collection on this form included age, sex, date of admission to the long term care setting, number of days in the acute care setting, as well as diagnosis.

This tool was reviewed by five professional nurses knowledgeable in long term care. It was also reviewed by an associate professor of medical-surgical nursing at The
University of Arizona. All reviewers indicated that the items were appropriate and sequential for collection of the necessary data (see Appendix A).

A second tool was developed to record the results when the standing order was used. If an impaction was found to exist, the standing order was to be implemented with the investigator carrying out the procedures and recording the results thereof, on the form. Because there were five steps in the standing order, the form included a format to record the time each step of the treatment process was carried out and the results and time of each stage in the standing order. In addition, it was recognized that it was theoretically possible for the patient to have a bowel movement after assessment and before the standing order was implemented. For this reason, a stage 0 was included on the form. The form was designed with the consultation of a statistician for ease and clarity in analysis (see Appendix B).

**Protection of Human Rights**

Though the nursing home assessment form is mandatory for each patient admitted, participation in the study was entirely voluntary. Refusal to participate in no way altered any consequences for the patient since staff and investigator would be doing the same assessment and using the same standing order.
The assessment tool and other data collection records were completely anonymous, giving only birth date, sex, and other items mentioned in the section on data collections. The data were coded and analyzed collectively.

The information collected in the investigation was shared with the professional staff of the nursing home, stratified only by sex, age, and outcomes.

Any physical risk to the patient was no greater than would have existed without the investigation since the procedures from which the data were collected are covered by standing orders and would have been carried out by a professional nurse on the staff of the facility in the absence of the investigator. The human subjects approval is contained in Appendix E.

The subject consent form is contained in Appendix C and the standing order approval can be seen in Appendix D.
PRESENTATION AND ANALYSIS OF DATA

This study was designed to determine the extent of the problem of fecal impactions in patients admitted to a long term care facility from an acute care setting and to test a standing order for resolution of the problem. This chapter presents a summary of the findings and analysis of the data collected.

Characteristics of the Sample

Table 1 indicates the distribution of subjects in the study by sex. The sample consisted of 23 patients who agreed to participate in the study. Percentages of males and females as shown in Table 1 correspond to the national averages of 80 per cent females and 20 per cent males in long term care facilities.

Table 1. Distribution of Subjects by Sex

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<td>18</td>
<td>5</td>
<td>23</td>
</tr>
<tr>
<td>Per cent</td>
<td>78.3</td>
<td>21.7</td>
<td>100.0</td>
</tr>
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Table 2 gives the distribution of the 23 subjects by age. As would be expected, over half of the study population fell into the 70 to 89 age range.

Table 2. Distribution of Subjects by Age

<table>
<thead>
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<th>Age</th>
<th>50-59</th>
<th>60-69</th>
<th>70-79</th>
<th>80-89</th>
<th>90-99</th>
<th>Total</th>
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<td>3</td>
<td>4</td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>23</td>
</tr>
<tr>
<td>Per cent</td>
<td>13.0</td>
<td>17.3</td>
<td>30.4</td>
<td>26.3</td>
<td>13.3</td>
<td>100.0</td>
</tr>
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Table 3 shows the age range of the subjects in the study was 55 to 94 years of age. The male subjects in the study averaged 8.28 years older than females. Three women were in their fifth decade of life and four were in their sixties, while the youngest male was 74 years of age.

Diagnoses

Diagnoses shown in Table 4 were taken from patient records received from the acute care facility. No other inferences, assessments, or diagnoses were added. For example if the patient's blood pressure was elevated but hypertension was not one of the diagnoses listed, the patient was not included in the number shown to be hypertensive.
Table 3. Comparison by Age and Sex of Subjects

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Age Range</th>
<th>Mean Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males--5</td>
<td>74-84</td>
<td>82.0</td>
</tr>
<tr>
<td>Females--18</td>
<td>55-94</td>
<td>73.72</td>
</tr>
<tr>
<td>Total</td>
<td>55-94</td>
<td>75.52</td>
</tr>
</tbody>
</table>
Table 4. Frequency of Specific Diagnoses in Study Population

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cardiovascular:</strong></td>
<td></td>
</tr>
<tr>
<td>Myocardial Infarction</td>
<td>2</td>
</tr>
<tr>
<td>Transient Ischemic Attack</td>
<td>2</td>
</tr>
<tr>
<td>Angina</td>
<td>1</td>
</tr>
<tr>
<td>Organic Brain Syndrome/Chronic Brain Syndrome</td>
<td>4</td>
</tr>
<tr>
<td>Hypertension</td>
<td>5</td>
</tr>
<tr>
<td>Cerebrovascular Accident</td>
<td></td>
</tr>
<tr>
<td>Old</td>
<td>4</td>
</tr>
<tr>
<td>New</td>
<td>5</td>
</tr>
<tr>
<td>Arteriosclerotic Heart Disease/Arteriosclerotic Valvular Disease/Arteriosclerotic Cardiovascular Disease</td>
<td>9</td>
</tr>
<tr>
<td>Sick Sinus Syndrome</td>
<td>2</td>
</tr>
<tr>
<td>Congestive Heart Failure</td>
<td>2</td>
</tr>
<tr>
<td>Anemia</td>
<td>2</td>
</tr>
<tr>
<td>Vaginal Bleeding</td>
<td>1</td>
</tr>
<tr>
<td>Melena by History</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>45</strong></td>
</tr>
<tr>
<td><strong>Renal:</strong></td>
<td></td>
</tr>
<tr>
<td>Diabetic Uropathy</td>
<td>1</td>
</tr>
<tr>
<td>Urethral Stricture</td>
<td>1</td>
</tr>
<tr>
<td>Pyelonephritis, Recurrent</td>
<td>2</td>
</tr>
<tr>
<td>Uremia</td>
<td>1</td>
</tr>
<tr>
<td>Renal Failure</td>
<td>2</td>
</tr>
<tr>
<td>Urinary Tract Infection</td>
<td>2</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7</strong></td>
</tr>
<tr>
<td><strong>Sensory:</strong></td>
<td></td>
</tr>
<tr>
<td>Deafness</td>
<td>1</td>
</tr>
<tr>
<td>Glaucoma</td>
<td>1</td>
</tr>
<tr>
<td>Cataracts</td>
<td>4</td>
</tr>
<tr>
<td>Meniere's</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>
Table 4.—Continued Frequency of Specific Diagnoses in Study Population

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Respiratory:</strong></td>
<td></td>
</tr>
<tr>
<td>Hypoxemia with Hyperventilation</td>
<td>1</td>
</tr>
<tr>
<td>Pulmonary Emboli with Thrombophlebitis</td>
<td>1</td>
</tr>
<tr>
<td>Upper Respiratory Infection</td>
<td>1</td>
</tr>
<tr>
<td>Bronchial Asthma</td>
<td>1</td>
</tr>
<tr>
<td>Chronic Bronchitis</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>5</td>
</tr>
<tr>
<td><strong>Metabolic and Digestive:</strong></td>
<td></td>
</tr>
<tr>
<td>Diabetes Mellitus</td>
<td>6</td>
</tr>
<tr>
<td>Dehydration</td>
<td>2</td>
</tr>
<tr>
<td>Metabolic Encephalopathy</td>
<td>1</td>
</tr>
<tr>
<td>Fecal Impaction</td>
<td>2</td>
</tr>
<tr>
<td>Ethanol Abuse</td>
<td>1</td>
</tr>
<tr>
<td>Peptic Ulcer Disease</td>
<td>1</td>
</tr>
<tr>
<td>Hypothyroid</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>14</td>
</tr>
<tr>
<td><strong>Mental Health:</strong></td>
<td></td>
</tr>
<tr>
<td>Senile Dementia</td>
<td>1</td>
</tr>
<tr>
<td>Depression</td>
<td>1</td>
</tr>
<tr>
<td>Alzheimer's</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Neoplasm:</strong></td>
<td></td>
</tr>
<tr>
<td>Basal Cell Carcinoma</td>
<td>1</td>
</tr>
<tr>
<td>Actinic Keratosis</td>
<td>1</td>
</tr>
<tr>
<td>Cancer of the Tongue</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Traumatic Injury &amp; Surgery:</strong></td>
<td></td>
</tr>
<tr>
<td>Fractures</td>
<td>4</td>
</tr>
<tr>
<td>Motor Vehicle Accident with Brain Stem Injury</td>
<td>1</td>
</tr>
<tr>
<td>Amputation</td>
<td>3</td>
</tr>
<tr>
<td>Enucleation</td>
<td>2</td>
</tr>
<tr>
<td>Colostomy</td>
<td>1</td>
</tr>
<tr>
<td>Mastectomy</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>12</td>
</tr>
</tbody>
</table>
Table 4.—Continued Frequency of Specific Diagnoses in Study Population

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miscellaneous:</td>
<td></td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>6</td>
</tr>
<tr>
<td>Osteoarthritis</td>
<td>1</td>
</tr>
<tr>
<td>Benign Prostatic Hypertrophy</td>
<td>1</td>
</tr>
<tr>
<td>Dysphagia</td>
<td>1</td>
</tr>
<tr>
<td>Decubitus</td>
<td>1</td>
</tr>
<tr>
<td>Inguinal Hernia</td>
<td>1</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>


Information on diagnosis is inconsistent because of the inconsistency of the records received with the patients in the study. For example, one patient had only one diagnosis, motor vehicle accident with brain stem injury. No listing was available in the records as to dysfunction as a result of this diagnosis, whereas a patient with renal failure had four diagnoses which included renal failure along with recurrent pyelonephritis, uremia, and arteriosclerotic heart disease. Most patients had at least four diagnoses listed in their records and one person had 14, some of which were components or contributing factors to other diagnoses in the listing.

Only four of the patients in the study did not have a diagnosis which included some type of cardiovascular disease. Table 4 indicates that there were 45 diagnoses of various types of cardiovascular disease assigned to 19 of the study participants. The largest portion was a group variously labeled arteriosclerotic heart disease, arteriosclerotic valvular disease, and arteriosclerotic cardiovascular disease.

Length of Hospital Stay

Table 5 contains information on the various length of hospital stay for the participants in the study. Women spent an average of 6.47 fewer days in the acute care setting than men. The five-day stays for one each male and
Table 5. Length of Hospital Stay for Subjects

<table>
<thead>
<tr>
<th>Subjects (N=23)</th>
<th>Number of Days</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Males</td>
<td>5-106</td>
<td>64.4</td>
</tr>
<tr>
<td>Females</td>
<td>5-138</td>
<td>56.93</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>58.89</td>
</tr>
</tbody>
</table>

female represent a special set of circumstances (the beds were held open for these patients during their hospital stay). If these five-day stays are excluded, the average stay for men becomes 79.25 days and for women 60.92 hospital days.

The longest hospital stay was for a woman who was hospitalized for 138 days with a fractured femur with many complications and ultimately the loss of the leg. Two women were hospitalized for possible bowel obstructions. These patients were found instead to have fecal impactions resulting in hospital stays of 73 days for one and 44 days for the other.

Results of Digital Examinations

Table 6 presents the findings from the digital examinations that were done on each patient on admission. No patient admitted to the study arrived with records to indicate the date of the last bowel movement. In addition
Table 6. Findings Upon Digital Examination

<table>
<thead>
<tr>
<th>Description</th>
<th>Female</th>
<th>Male</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nothing in Anal Canal</td>
<td>6</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Small Amount Soft Feces</td>
<td>7</td>
<td>3</td>
<td>10</td>
</tr>
<tr>
<td>Small Amount Hard Feces</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Large Amount Hard Feces</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Colostomy</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Impacted Feces</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Totals</td>
<td>18</td>
<td>5</td>
<td>23</td>
</tr>
</tbody>
</table>

To this, the researcher was instructed by the director of nursing services that all patients were to have a digital examination of the rectum. As the table shows, 22 patients had the required digital examination and one patient had a colostomy.

The fact that no impactions were found among the study population eliminated the collection of data on the sheet covering time and resolution of impaction.
CHAPTER 5

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of the findings of this study and includes a discussion of the field problems encountered during the data collection period. Conclusions are drawn and recommendations for future study are made.

Summary of Findings

None of the patients in the study who were admitted to the long term care setting from the acute care facility were found to be impacted on admission. Three patients reported impactions which occurred during their stay in the hospital. The average length of stay in the acute care setting was 58.89 days for the study population. This, in effect, forced the staff in the acute care setting to function, with regard to these patients, more as the staff in a long term care setting, concentrating on activities of daily living rather than the usual emphasis on episodic treatment for the acutely ill. The fact that patients did report serious intestinal motility problems gives support to the theoretical framework on which this study was based. It appears that the etiological factors of constipation/impaction were present and because of the length of stay in
the acute care setting, the problem arose during that time rather than after transfer to the long term care setting.

At the time this study was designed, it was assumed that the length of stay in the acute care setting, for the older person, would be appropriate and related to the processes of diagnosis, treatment, and/or control of the problem for which hospital admission was required. In fact, however, the length of stay seemed to be directly related to the number of nursing home beds available to county patients. As mentioned earlier, one man and one woman had hospital stays of five days each. This was possible only because their beds were held open by the facility during their hospital stays. However, even in this instance, it was not possible to relate the patient's problem to the length of hospital stay. One of the patients who remained hospitalized only five days had an above-the-knee amputation while another man who went into the hospital for a minor surgical procedure had been hospitalized six weeks and did not return to the long term care facility prior to the closure of the data collection period for this study.

Field Problems Encountered During the Study

A major factor that could have influenced the study was unknown to the researcher at the time the study was planned. The long term care facility had been receiving an inordinately large number of patients with fecal
impactions from the hospitals. The director of nursing service in the long term care setting had, just prior to the beginning of the study, discussed the problem with her counterparts in the hospitals. It is probable that the directors of nursing service in the acute care settings, in responding to this criticism, caused changes in patient care procedures with their staff members that altered the outcome of the study.

Conclusions

Several conclusions can be drawn from the study, all of which are serendipitous to the purposes for which the study was planned.

At a time in life when adaptive mechanisms are diminished, older people in the study spent an average of almost two months in a facility designed for the acutely ill person in need of diagnosis and treatment, rather than the more relaxed, slower-paced supportive environment generally provided in a long term care facility.

In addition to the human factors, there is the matter of cost. All of the patients in the study were wards of the county and generally hospitalization was provided in the county hospital. The county paid a set daily rate, plus medicines, for nursing home beds. The rate seemed to be relatively low and the county had apparently contracted for all of the beds possible at the present
rates. All of these beds were full at all times in the long term care facilities, leaving many patients in the county hospital with a diagnosis of "awaiting nursing home placement."

It would appear that the cost of maintaining the person in an acute care setting would be greater than nursing home care costs even if there were some Medicare reimbursement available. The state did not participate in the Medicaid program.

The hospital which provided care for the county patients was a relatively new facility. Recent publicity indicated that it has a sizeable debt and that the debt was increasing. The findings of this study seem to explain at least a portion of this phenomenon.

**Recommendations for Future Study**

Based on the experiences with this study, the researcher would recommend a somewhat altered methodology for any future studies. Before deciding on the setting for another study, it would be important to determine whether or not the length of stay in the acute care setting was appropriate to the diagnosis, treatment, and/or control of the health problem. If the hospital stay was disproportionately long, as found in this study, a future study should be conducted in the acute care setting. If, however, the chronically ill older person went into the
hospital, was diagnosed, treated, and discharged back to the nursing home, it seems that the problem would be more likely to arise in the long term care setting and one would locate the study there.

The age range of 50 and up seems appropriate if the person is chronically ill, as in a long term care setting. If, however, the study was changed to an acute care setting, an additional criterion of chronic illness would have to be added for the study population selection. This would eliminate those persons who were acutely ill to whom the conceptual framework for this study would not apply.

Once the setting was decided upon and the patient with a fecal impaction was located, the proposed order for resolution would be carried out and the results thereof recorded. The researcher should then turn attention to determining, from the patient's hospital records, those etiological factors related to the constipation/impaction, present in each patient.

Perhaps with a sample size of 50-100, it would be possible to determine the efficacy of the standing order and possibly identify patients who were at risk for impaction.
CHAPTER 6

SUMMARY

This study attempted to determine the extent of the problem of fecal impaction among persons aged 50 and over who were admitted to a long term care facility from an acute care setting, and to test a standing order for resolution of the impaction. Many of the etiological components of constipation/impaction were present when the older person was transferred from his/her accustomed environment to an acute care setting for diagnosis and treatment or for control of a health problem.

The review of the literature consisted of several references for each component related to the etiology and an outline to support the suggested standing order.

The sample consisted of 23 persons, 18 women and five men. The age range was from 55 to 94 years of age.

Data were collected from patient records and completed with a digital examination of the anal canal. Results were recorded on an assessment form. An additional form was available for recording results of the standing order implementation.
Analysis of the data suggested that the length of hospital stay for older people in the area where the study was done had little relationship to the purpose for which hospitalization was required. The shortage of nursing home beds available to patients who were wards of the county caused these people to be retained in hospitals far beyond a time frame that had any relationship to their medical problem.

There would seem to be far reaching implications in that a more appropriate placement in terms of the personal needs of older persons who are county wards is possible at less cost to the taxpayer. In order to accomplish this goal, an evaluation of the present situation is needed along with the development of a plan to alter the present set of circumstances.
APPENDIX A

ADMISSION CHECK LIST—FECAL IMPACTIONS

Patient Code __________________ Birthdate ___________________ Sex ________

Date of Admission to Nursing Home _______ Number Days in Hospital _______

Diagnosis(es) ____________________________________________________________

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>DATE/INTERVAL</th>
</tr>
</thead>
</table>

I. A. Did patient arrive with records from previous facility? ________ _______

B. If records are available, is date of last BM indicated? ________ ________ ________

1. If indicated BM more than 3 days previous, check for impaction. ________

Findings: ________

II. A. If records are not available, is the patient a reliable source of information? ________ _______

B. If reliable, can patient indicate normal bowel patterns? ________ _______

1. What are normal bowel patterns for patient? ________

2. If patient indicates normal BM more than 4 days previous, check for impaction. ________
III. A. If patient unreliable, is there a reliable family member present? ___ ___

1. If yes, is date of last BM known? 

2. If no, check for impaction. Findings: 

COMMENTS: ________________________________

______________________________

______________________________
APPENDIX B

DATA COLLECTION SHEET—TIME AND RESOLUTION OF IMPACTION

Patient Code __________________ Date __________________

Time Intervention Started ______ Time Problem Resolved ______

<table>
<thead>
<tr>
<th>Time of Trtmt</th>
<th>Results &amp; Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

STAGE 0 - Nothing done (patient had BM before any procedure carried out)

STAGE I - Bisacodyl Suppository Given

STAGE II - Bisacodyl Suppository Repeated (if no result in 2 hr from first suppository)

STAGE III Oil Retention Enema
(if no results from second suppository)

STAGE IV - Digital Removal if:

A. Enema expelled with no results

B. Enema retained one hour with no results

STAGE V - Referral to physician
(if unable to remove digitally)

CODE:  
A - No Results
B - Partial Evacuation determined by digital examination
C - Full Evacuation examination

COMMENT on outcome of physician referral ____________________________

OTHER COMMENTS ____________________________

43
APPENDIX C

SUBJECT CONSENT FORM

I agree to participate in the study entitled "Fecal Impaction in the Elderly in Nursing Homes." I understand the purpose of this study is to collect data to determine the number of older persons admitted to the nursing home from acute care settings who have fecal impaction upon arrival and ways of getting rid of the impaction. Data will be collected based on examination of the rectum of the patient and the use of standing orders should the patient have a fecal impaction. The procedure to be used to relieve the fecal impaction is the one approved for use in the nursing home.

I understand that all the data will be analyzed and reported in groups rather than individually and will be seen by no one other than the researcher. All data will be coded to assure full confidentiality.

I agree to the above "subject's consent." The purpose and procedures have been explained to me. I understand that the results may lead to improvements in the care of older persons. I understand that I may ask questions during the data collection and may withdraw from the project at any time.

Subject's Signature ___________________________ Date ________

Researcher's Signature _________________________ Date ________
March 21, 1977

Mrs. Carol Wichita
Director—Nursing Service
Posada del Sol
Tucson, Arizona

Dear Mrs. Wichita:

I have researched a procedure for resolving a fecal impaction. The literature is as follows:

Godding (1973) recommends the following procedure for treatment of fecal impaction:

1. Disposable enema
2. Bisacodyl suppository inserted high in the rectum
3. Repeat in two hours if no result

However, Deshmukh (1975) indicates that performation of the colon is more likely with enemas than with suppositories and Corman (1975) states that the relative efficacy of enemas versus suppositories is open to question. Also, a suppository is easier to administer and probably more acceptable to the patient and the nurse. For these reasons, it appears that giving the suppository first would be superior relative to the above procedure as outlined by Godding.

An editorial in Patient Care (1969) recommends the use of a rectal tube to place the retention enema above the mass. Jones (1976) says that the retention enema should be oil rather than water or other substance. Each reference mentioned suggests digital removal only as the last resort.

Given the above rationale, I would like to ask approval of the following regimen as a standing order to be used for fecal impactions for approximately the next 60 days.
Mrs. Carol Wichita  
March 21, 1977  
Page Two

1. Give bisacodyl suppository high in the rectum if no bowel movement in past four days.
2. Repeat bisacodyl suppository in two hours if no results from the first treatment.
3. Give small volume oil retention enema (with rectal tube to instill above mass) in one hour if no results from second suppository.
4. If enema expelled or retained with no results (for one hour) perform digital removal of fecal mass.
5. Report to nursing staff (who will notify physician) if unable to remove fecal mass digitally.

After about 60 days, it should be possible to evaluate the effectiveness of the order and/or make any appropriate modification.

Thank you for your consideration.

Sincerely,

/s/ Lois G. Averitt,  
Lois G. Averitt, R.N.  
Graduate Student  
University of Arizona

APPROVED: /s/____________________ M.D. ________ Date
APPENDIX E

HUMAN SUBJECTS APPROVAL

Human Subjects Committee

March 7, 1977

Lois G. Averitt, R.N.
3636 North Campbell E-24
Tucson, Arizona 85719

Dear Ms. Averitt:

I have reviewed your proposal entitled, "Fecal Impaction in the Elderly in Nursing Homes," which was submitted to the Human Subjects Committee and concur in the opinion of the Departmental Review Committee that this is a minimum risk project. Therefore, administrative approval is granted effective March 7, 1977, with the understanding that no changes in either the procedures followed or the consent form used (copies of which we have on file) will be made without the knowledge and approval of the Human Subjects Committee and the Departmental Review Committee. Any physical or psychological harm to any subject must also be reported to each committee.

A university-wide policy requires that all signed consent forms be kept in a permanent file in the Departmental Office to assure their accessibility in the event that university officials need the information and the principal investigator is no longer on the staff or unavailable for some other reason. One exception is for those cases in which the subject is hospitalized or an outpatient. In such cases, the consent form may be filed with the patient's chart.

Sincerely yours,

/s/ Milan Novak
Milan Novak, M.D., Ph.D.
Chairman
Human Subjects Committee

MN:pl
March 1, 1977

MEMORANDUM

TO: Milan Novak, M.D., Ph.D
   Chairman, Human Subjects Committee

FROM: Carol J. Lindstrom, R.N., Ph.D.
   Chairman, Research Committee

RE: Attached Study
   Fecal Impaction in the Elderly in Nursing Homes

Ms. Averitt plans to determine the magnitude of the problem of fecal impactions in the elderly who are admitted to a nursing home from an acute care setting. The nursing home has a specific standing order for resolution of the impaction; the treatment which the investigator will use is not experimental. We see no risk to the subjects and recommend approval without review by the Human Subjects Committee.
REFERENCES


"When Your Patient Says, 'Dr., I'm Constipated'," Patient Care, Vol. 3, September 15, 1969, pp. 90-94.