A Brief Literature Review of the Effects of Relocation on the Elderly

Prepared for:
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Introduction

This brief literature review examines selected published papers in patient relocation research and, more specifically, research focusing on the relocation of the elderly.

Highlights:

- Relocation can have negative physical and psychological effects on patients in acute care and residents of long term care. These effects are more pronounced in elderly populations, particularly frail elderly patients and long term care residents.

- Acute care patients and long term care residents are at an elevated mortality risk when they are relocated. Studies examining the effect of transferring (relocating) different patients groups between institutions have found that transferred patients were at an elevated mortality risk between 1.99 and 3.76 times greater than those patients who were not transferred.

- Contradictory studies that have not found an increased mortality risk for transferred patients often have methodological problems. Some of the methodological concerns include small sample sizes, inadequate statistical power and a lack of control groups.

- Based on 40 years of documentation and observation, ***Relocation Stress Syndrome*** was recognized as an official Nursing diagnosis in 1992 and was defined as the physiologic and psychosocial disturbances that result from transfer from one environment to another.

- According to the U.S government's Administration on Aging, ***Transfer Trauma***, as a result of sudden and unexpected relocation, is associated with depression, increased irritability, serious illness and elevated mortality risk for the frail elderly.

Changes in the research

Shifts in patient relocation research priorities over time

Research has focused on the effects of relocation on patients for the past forty years. There have been four general shifts in the concentration of research that has been conducted. First in the 1960s and early 1970s, research was initiated with a focus on the effects of relocation. The results suggested a connection existed between the relocation of patients and an increase in mortality and morbidity.[1,2,3]

The second shift occurred when these results were questioned in the 1980s and research concentrated on whether relocation was the cause or sentinel event to trigger increases in mortality and morbidity.[4,5] Some researchers suggested that relocated patients were subjected to selection bias and that those patients being moved already had a declining health status and were more likely to become increasingly ill or even die. As a result, the existing literature that drew attention to a connection between patient relocation and an increase in mortality and morbidity was reconsidered.

Then in the 1990s, a third shift occurred in the literature. Support began to surface again for the association between relocation and adverse effects.[6,7,8,9,10,11,12,13] Researchers were examining patient moves again, but this time controlling for previous health status. Again, the results of the research suggested an association between the relocation of patients and increased mortality and morbidity.

The last shift began in 1992. Researchers were attempting to define and set parameters around the effects of patient transfers. Names and definitions changed frequently, but in 1992 the term Relocation Stress Syndrome (RSS) and its diagnosis became official. As a result, Relocation Stress Syndrome became defined as physiologic and/or psychosocial disturbances as a result of transfer from one environment to another.[14]

The association between patient relocation and increased mortality rates

A brief summary of patient relocation study results

Elevated mortality rates among patients following a relocation have been observed and studied since the mid-1960s. As early as 1963, Aldrich and Mendkoff recorded the outcomes of a relocation of 121 elderly women and found that the mortality rate during the year following the move was three times higher than expected.[2] Bourestom and Tars in 1974 studied a nursing home relocation. Within one year of the move, 32% of the relocated patients had died.[3] In 1993, Robertson et al. studied a move of demented patients from a closed ward in

Scotland and concluded that the relocation was associated with an increased mortality rate.[6]

There are some studies that have focused on the relocation of elderly and nursing home residents. The majority of the studies, however, are focused on the relocation of the critically ill, medicine and surgery patients. Although the patient populations are different, some researchers argue that the results from these studies can be generalized to elderly patients and that the effects of a relocation will actually be more pronounced in this vulnerable population.[1,5,15,16,17]

Studies of patient relocations have found that patients who are transferred are 1.99 to 3.76 times more likely to die compared to those patients who are not transferred. A study of 1248 medical-service patients reported that inter-hospital transferred patients were more than twice as likely to die compared to non-transferred patients during their entire hospital stay which averaged 9.5 days.[7] A retrospective study of 134,240 patients found that transferred patients had a 2.7 times greater risk of dying compared to non-transferred patients.[8] Another study that tracked 84,787 patients revealed that transferred patients were 3.76 times more likely as non-transferred patients to suffer in-hospital death.[9] In 1996, a study of 40,820 transferred patients found that patients who were transferred were 1.99 times more likely to suffer in-hospital death compared to those who were not transferred.[10] Prior health status was controlled for when the mortality risk was calculated.

Mortality risk is also greater when the transfer occurs between facilities rather than within the same facility.[13] A study in 1991 revealed that inter-hospital transferred patients had a mortality rate of 36% compared to intra-hospital transferred patients with a 12% mortality rate ($p<0.05$).[13] There is also evidence from some studies to suggest that many patients die within a short time following the transfer. Etxebarria et al. in 1998 documented that a quarter of the deaths that occurred among transferred patients in their study occurred within 24 hours of the transfer.[11] In 1990, Reeve et al. had similar results. In their study of patients transferred between hospitals, 17% died within 24 hours of the transfer.[13]

Bourestom and Tars drew another conclusion in their study of relocated nursing home residents. They found that the degree of change experienced by the patient had an impact on their mortality.

Contradictory patient relocation studies

Study results that do not suggest an association between patient relocation and increasing mortality rates and methodological problems related to these studies

Following the research trend of the 1960s and 1970s that demonstrated an association between patient relocation and increased mortality, research

surfaced that was critical of the association. The most prominent critic was Borup. Beginning in 1970, Borup and colleagues criticized previous studies that had documented an increased mortality rate among relocated patients. Then in 1983, Borup studied a relocation of 529 older persons who were moved from board and care homes to modern nursing facilities and found that the mortality rate in the 16 months post-transfer was lower than expected.[4]

In the same year, Horowitz and Schulz reviewed the study by Borup and pointed out problems with his research and the research of others.[5] Horowitz and Schulz discuss that although Borup did not find an association between relocation and post-transfer mortality rate increases, his own study excluded non-interviewable patients, perhaps the sickest and most susceptible patients to mortality rate increases. Even in 1967, Blenker stated that is was the disoriented and demented who were most likely to be effected by relocation stress. It was these vulnerable patients who were excluded from the Borup study. As well, the majority of patients admitted to nursing home facilities have cognitive impairments that make interviewing difficult.[15]

Horowitz and Schulz were also skeptical of other studies from the 1980s that did not show an increase in post-transfer mortality. Closer investigation of some of the studies found that considerable preparations for the transfers had occurred, including preparing the patients for the transfer in advance, using a specialized transfer team and maintaining the same staff before and after the transfer.[15,18,19] All of these precautions may have influenced the effect of the transfer on the patients.

A study in 2000 by Thorson of 269 older individuals moved from a county home to a new nursing home facility did not show an increase in post-transfer mortality. However, this study is an example of a highly prepared and anticipated patient transfer. Patients were prepared for the move up to 18 months before the transfer was to occur and many precautions were taken surrounding the move itself. Although there was no increase in mortality following the move, there was a statistically significant increase in mortality in the year prior to the move. Thorough preparations in the time leading up to the move may have prevented an increase in post-transfer mortality, but it may have created unintentional stress and elevated pre-transfer mortality in the anticipatory period prior to the transfer. The authors ended their study with the following statement:

> We think it is honest to conclude that change, and the threat of change, is disrupting to people who are near the end of their lives.[15]

Many of the studies that did not show an increase in post-transfer mortality had methodological problems. Small sample sizes[20], insufficient statistical power[19] and lack of control groups[4] were often cited in the papers themselves as study limitations.

Therefore, although contradictory studies have been published that do not show an increase in post-transfer mortality some of these studies had fundamental flaws. Methodological issues from small sample sizes to the exclusion of patients weaken their conclusions.

In summary, over the last 40 years, there have been few studies on patient relocation. Despite the limited number of studies, there is convincing evidence that there is an association between patient relocation and increased mortality.

What is relocation stress?

How the current definition became an official diagnosis

Over the past several decades, the effects of relocating patients were closely examined and yet a common name and definition was never adopted. Many names were used to describe the strain endured by patients including translocation syndrome, transfer stress, expectant anxiety, transfer anxiety and relocation stress.

Transfer anxiety is a specific form of separation anxiety that occurs when patients are required to relocate from an environment that is known and secure to an unfamiliar environment. This anxiety particularly arises when the move happens quickly or without warning. As well, the effect of transfer anxiety is intensified when the patient is frail or very sick.[21]

A form of transfer anxiety, expectant anxiety, arises when patients are cognizant of the future relocation and perceive the move as a negative situation causing them internal anxiety.[21]

Finally in 1992, the North American Nursing Diagnostic Association (NANDA) approved relocation stress as a new nursing diagnosis to describe the phenomenon that had been observed and documented over the previous 40 years. In the book, Nursing Diagnosis: Application to Clinical Practice, Carpenito outlines the major characteristics of relocation stress. They include loneliness, depression, anger, apprehension and anxiety. The minor characteristics are listed as changes in former eating and sleeping habits, dependency, insecurity, lack of trust and a need for excessive reassurance.[22] Carpentio also includes the operation definition that incorporated aspects from many of the previous definitions.

> Relocation stress may be defined as a state in which an individual experiences physiological and/or psychosocial disturbances as a result of transfer from one environment to another.[22]

Certain factors have been identified that contribute to or cause relocation stress. The environmental factors include the degree of change experienced, the perceived reduction in patient care and the perceived lack of predictability of one's environment. The impact of these factors is heightened when the patient is not given the opportunity to move gradually.

There are personal factors that also influence the way an individual reacts to relocation stress. These include an individual's coping strategies, coping barriers and coping resources.

The decline in health status of patients after relocation between facilities

A review of some theories – patient, transfer and facility effects of relocation

Some researchers have theorized about the reasons behind the decline in health status of patients who have been relocated. Their theories can be divided into three main areas: patient, transfer and facility effects.

Patient Effects

Patient effects focus on the direct experience of the relocation by the patient. Hypotheses have changed over time in attempts by researchers to determine how patients experience changes in environments. The first hypothesis to emerge was the selection hypothesis. This hypothesis suggests that those patients who are relocated are in fact more ill compared to those who are not relocated. The illness may also be the reason for the transfer. As a result, these patients who may be more ill are at a higher mortality risk.[23] Cohen-Mansfield reviewed the literature focused on the rapid decline of patients with dementia after being institutionalized and concluded that:

> While it is true that the frailest portion of the elderly population tends to be institutionalized, their mortality rate is higher than expected as estimated by current statistical methods of controlling for disability.[23]

Beginning in the 1990s, studies of patient relocations began controlling for the previous health status of patients and still mortality and morbidity rates increased post-relocation. As a result, researchers began to formulate other theories to explain the decline in health status of patients after relocation.

The stress hypothesis addressed the impact the relocation has on the individual patient. This hypothesis focuses on the lack of personal control a patient can experience when being relocated. A change in environment can cause an individual to experience high levels of stress before and after the move. Relocated patients have expressed their stress in terms of a loss of personal control and a loss of control over their environment. Some researchers have

found that this feeling of lack of control can be a predictor of subsequent mortality.[23,24,25]

Another theory called the transition hypothesis focuses on the varying level of care and support received by patients throughout the transfer. This hypothesis assumes that all patient transfers are not identical. It assumes that there are varying levels of care at facilities and some are better than others at individualizing care and providing a continuum of care to each patient. Some researchers believe that the care an individual receives and the way the individual adjusts to changes in level of care is associated with subsequent post-transfer mortality and morbidity rates.[23] Those who perceive an improvement in their care at the new institution are less likely to have a decline in health status post-relocation.

Transfer Effects

Characteristics of the transfer itself can effect the impact relocation has on patients. Thorough preparation can contribute to the success of the relocation. Preparation for the physical transfer involves anticipating and allowing for adequate time for necessary preparations to be put in place. Research has highlighted the importance of proper patient monitoring and being sufficiently prepared for adverse events as essential to making a patient transfer successful.[15,18,25]

To ensure comprehensive patient monitoring and the ability to handle adverse events, a specialized transfer team has been recommended to lead a patient transfer. The presence of a specialized transfer team is documented in several papers as being one of the key aspects of a successful patient transfer.[19] In addition to being prepared for the transfer itself, the patients who are to be transferred require preparation. Some researchers have discussed the need to prepare patients both physically and psychologically for a transfer so that the change they experience is minimized.[15,24] It has been documented that those patients who experience an easy adjustment to their new environment fare better than patients who have a difficult transition.

Facility Effects

Another aspect of patient relocation examined by researchers that has shown an impact on patient outcomes is the effect of the facility. The new facility must be able to handle the medical requirements of the transfer patients, especially if it is possible that their health status could decline upon transfer.[21] If the new facility is unable to handle potential adverse events, a patient may face another transfer to a facility that is able to treat more complex care situations.

As well, if the two facilities are relatively different, some of the transfer patients may find it difficult to cope with the change in environment. As a result, the

difference between the two facilities must be considered in order to minimize the change experienced by the transferred patients.[3,26]

Awareness of relocation stress and the prevention of transfer trauma in the elderly population

Legislation in the United States

The United States Administration on Aging is dedicated to the health and care of their elderly population. The following is a description of the administration from their website (www.aoa.gov).

> "For over thirty years, the Administration on Aging (AoA) has provided home and community-based services to millions of our nation's vulnerable and hard-to-reach older persons through the programs funded under the Older Americans Act. Among these services are nutrition (such as home delivered meals or meals served in congregate settings and which celebrate their 30th Anniversary this year), transportation, legal assistance and health promotion counseling and training. Recently through AoA's new National Family Caregiver Support Program, the agency is focusing on the tremendous challenges of those caring for family members who are chronically ill or who have disabilities."

The Administration of Aging focuses their mandate in three main areas: 1. The integration of health and social services 2. Supporting our nation's family caregivers and 3. Health Promotion and Disease Prevention.

The Administration on Aging's Emergency Preparedness Manual for the Aging Network produced in March 1995 includes a section dedicated to older persons and their response to disaster.[26] In this section, transfer trauma as experienced by older persons is described. The manual explains that "sudden and unexpected relocation can result in inadequate information about individual medical needs. In addition, the psychological tasks associated with adjusting to new surroundings and routines can lead to depression, increased irritability, serious illness and even death in the frail elderly."[26] This manual has been adopted by several states including Connecticut (see www.dmhas.state.ct.us), Virginia and North Carolina.

As well, nursing home residents were guaranteed certain rights when the United States federal government passed the Nursing Home Reform Act of 1987. The legislation was enacted to protect nursing home residents and assure that all residents receive humane, courteous, and dignified treatment. Included in this legislation is a section on patient transfers and discharges. According to the 1987 Nursing Home Reform Act, residents have the right to:

- Be transferred or discharged only for medical reasons, if health or safety is endangered, for nonpayment of services, or if the facility closes
- Be notified of transfer 30 days in advance (in most instances)
- Know the reason for the transfer, the date it's effective, the location to which the resident is discharged, and a statement of the right to appeal
- Receive preparation from the facility to ensure a safe and orderly transfer
- And have policies and practices upheld by the facility that are the same for all individuals regardless of payment source

(Source: Nursing Home Reform Act, 1987)

Recognizing the importance of protecting the vulnerable members of society, including the elderly, several individual states have passed much more stringent legislation to strengthen the federal Reform Act of 1987. For example New Jersey passed a Patient Bill of Rights in 1989 that includes the following about patient transfers. Patients are "to be transferred to another facility only when [the patient or the patient's family] has made this request, or in instances where the transferring hospital is unable to provide [the patient] with the care they need". As well, patients are "to receive an advance explanation from a physician of the reason for [the] transfer and possible alternatives". (New Jersey Patient Bill of Rights, 1989)

In 2001, California passed a Bill of Rights for nursing home residents. This bill included a section on the prevention of transfer trauma. The legislation outlines specific steps that a facility must take to minimize potential transfer trauma when 10 or more residents are likely to be relocated due to any voluntary or involuntary change in the status of the license or the operation of the facility. The specific steps include "medical assessments of residents, assessment of the relocation needs, adequate notice and the filing of a relocation plan prior to any transfer." (Nursing Home Initiative, 2001)

There is a recognition in the United States about the potential hazards of relocation, especially in the elderly. In response, attempts in the United States have been made to protect nursing home residents and the elderly through legislation and emergency preparedness manuals. Unfortunately, a similar recognition through the enactment of legislation has not been realized in Canada.

Summary

Over the past several decades, research examining patient transfers has highlighted the relationship between transferring patients and increases in post-transfer mortality. The elderly population is particularly susceptible to patient transfer effects including increased mortality and morbidity risks. Contradictory studies in the past, critical of the association between patient transfer and increased mortality, often had methodological limitations. As well, some of the studies that did not find a post-transfer mortality increase experienced a pre-transfer mortality increase instead. Either way, patients who are to be transferred are at an elevated mortality risk. This increased mortality risk upon relocation as a threat to the elderly population is also acknowledged by the United States federal government in their Nursing Home Reform Act of 1987, the US Administration on Aging in their Emergency Preparedness Manual and by several individual state-initiated Patient Bill of Rights. This acknowledgement through legislation is unfortunately not mirrored in Canada.

Some patient transfers are unavoidable. Using the research that has examined patient transfers over the last 40 years as a guide, hopefully the impact of transfers on patients can begin to be predicted and perhaps negative impacts can even be prevented.

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