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FINDINGS OF AMERICAN NURSING RESEARCH: ARE THEY GENERALIZABLE TO CANADA?

Canadian nurses are encountering a growing volume of nursing research that was conducted in the United States and published in American journals. An important question for Canadian clinicians and scientists is: are these findings transferable to our health care system? As one of the nurses who assumed the answer to this question is "yes", I experienced several surprises last year during my research/study leave at the University of Pennsylvania School of Nursing.

Two important events shaped my thinking about this issue of generalizability of findings. First, I was part of a postdoctoral seminar group in Psycho-social Oncology that included seven doctorally-prepared nurses who met weekly to discuss their research projects. This group was very ably led by Dr. Ruth McCorkle, and the program was funded by the American National Cancer Institute. Secondly, I attempted to replicate a Canadian study we had just completed on patient preferences about roles in cancer treatment decision making. This involved testing close to 100 newly diagnosed cancer patients at the University of Pennsylvania Cancer Center with the assistance of a research nurse.

As the year progressed, I soon became aware that a portion of the American public does not receive referral to tertiary cancer treatment centers because they are poor and uninsured. Members of my seminar group had difficulty recruiting subjects from minority groups for this reason. I was surprised and dismayed to find that, while 33% of the Canadian cancer patients in our sample had less than grade ten education, only 6% of the American patients we tested fell into that group. Shortly after my return to Canada, my observations were confirmed on reading an article by Harold Freeman, president of the American Cancer Society, who stated: "Combining the two overlapping segments of the population who are poor and uninsured, approximately 55 million Americans experience significant difficulty in gaining access to early diagnosis and treatment of cancer" (Freeman, 1989).

Education and income levels are related to so many of the variables we study in nursing research; as such, how generalizable are the results of American studies to Canada? If American samples either under-represent or over-represent disadvantaged segments of their society, what effect does this have on study findings? Would the same studies yield the same results in this country, where we at least assume there is equal access to health services?

These troublesome issues emerged again this past summer while conducting a literature review on patient-health professional communication in the context of cancer. Only eight of the 95 empirical studies we identified were conducted in Canada, and none focused on groups that are disadvantaged within our society, such as native Canadians. In our conclusion to the review, we stated: "It would be unwise to assume that the findings of studies conducted outside Canada are generalizable to the Canadian population" (Degner, Farber & Hack, 1989).

How can we address this issue of generalizability? One promising approach has been initiated through a Task Force of the Joint Medical Affairs Committee of the Canadian Cancer Society and National Cancer Institute of Canada. Funding has been obtained from the National Cancer Institute to sponsor a research workshop that will use a "think tank" type format to define a Canadian agenda for research on patient-health professional communication in the context of cancer. This agenda will define major gaps in knowledge from a Canadian perspective, and will provide young investigators in Nursing and other disciplines with guidance and encouragement to address these gaps through their research. A similar approach was used by Dr. Mary Ellen Jeans in 1983 to define a Canadian agenda for pain research. These attempts to define gaps in knowledge should help us focus our limited research resources into areas where truly Canadian studies are essential.

While basic biomedical scientists can assume that their findings should be replicable in any laboratory in the world, nurse scientists cannot afford the luxury of this assumption. If we are developing our research proposals from knowledge generated in largely American studies, we could even be asking the wrong questions! Sometimes it is useful to leave your own country in order to gain a new perspective.

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Lesley Degner
Associate Editor

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LES RÉSULTATS DE RECHERCHES AMÉRICAINES EN SCIENCES INFIRMIERES: PEUVENT-ILS ETRE APPLIQUÉS AU CANADA?

Les infirmières canadiennes découvrent un volume croissant de travaux de recherche réalisés aux États-Unis et publiés dans des revues américaines. Une question importante se pose alors aux cliniciens et chercheurs canadiens: les résultats de ces recherches peuvent-ils être appliqués à notre système de soins de santé? Ayant pour ma part présumé qu'il fallait répondre par l'affirmative à cette question, j'ai dû, à ma grande surprise, me rendre à certaines évidences l'an dernier lors d'un séjour d'étude et de recherche à l'École des sciences infirmières de l'Université de Pennsylvanie.

Une expérience en particulier a modifié mes idées sur la question de la généralisation des résultats de recherche. Je participais à un séminaire de niveau post-doctoral en oncologie psychosociale, qui regroupait sept infirmières titulaires d'un doctorat. Le groupe se réunissait chaque semaine pour discuter des projets de recherche de ses membres. Les travaux du groupe étaient dirigés de façon fort compétente par le docteur Ruth McCorkle, et le programme était financé par l'American National Cancer Institute. Dans le cadre de ce séminaire, j'ai voulu reproduire une étude que nous venions de réaliser au Canada sur les préférences exprimées par les malades quant au partage des rôles en matière de décision thérapeutique. Avec l'aide d'une infirmière-chercheure, il m'a donc fallu faire subir un test à près de 100 sujets vus au Centre de cancérologie de l'Université de Pennsylvanie, chez qui on avait diagnostiqué un cancer.

Au fil des mois, je me suis rendu compte qu'une partie de la population américaine, constituée de gens démunis et ne bénéficiant d'aucune assurance, n'est pas dirigée vers des centres de traitement anti-cancéreux tertiaire. Les membres de mon groupe ont donc éprouvé de la difficulté à recruter des sujets issus de groupes minoritaires. Quelle ne fut pas ma surprise de constater que si le tiers des cancéreux de notre échantillon canadien comptaient moins de 10 années de scolarité, seulement 6 % des sujets américains auxquels nous avons administré le test se classaient dans cette catégorie. Peu après mon retour au Canada, j'ai reçu la confirmation de ces observations dans un article où Harold Freeman, président de l'American Cancer Society, écrivait: "Si l'on tient compte des deux couches partiellement coïncidente de la population constituées de gens pauvres et non assurés, environ 55 millions d'Americains éprouvent des difficultés appréciables à obtenir un diagnostic et un traitement précoces du cancer" (Freeman, 1989).

Puisque le niveau d'éducation et le revenu sont liés à un si grand nombre de variables dont nos recherches doivent tenir compte, dans quelle mesure les résultats de recherches réalisées aux États-Unis sont-ils applicables au Canada? Si les échantillons américains comptent une proportion trop faible ou trop forte de personnes à faible revenu, quel effet cette particularité a-t-elle sur les résultats des recherches? Les mêmes recherches auraient- elles les mêmes résultats au Canada, où l'on peut au moins présumer qu'il y a égalité en matière d'accès aux services de santé?

Ces questions troublantes ont refait surface l'été dernier au cours d'une recherche documentaire que j'effectuais sur la communication entre malades et professionnels de la santé dans le contexte du cancer. Sur les 95 études empiriques relevées, seulement 8 avaient été réalisées au Canada; aucune ne portait en particulier sur les groupes défavorisés de notre société, comme les autochtones du Canada. Dans la conclusion de notre recherche, nous avons formulé la remarque suivante: (Degner, Farber & Hack, 1989).

Comment alors faut-il aborder la question de la généralisation des résultats de recherches? Un groupe de travail du comité mixte des affaires médicales de la Société canadienne du cancer et de l'Institut national du cancer du Canada propose une approche intéressante. Des crédits ont donc été sollicités auprès de l'Institut national du cancer afin de parrainer un atelier de recherche selon la formule de la cellule de réflexion. Cet atelier doit définir un de recherche dans le domaine de la communication entre malades et professionnels de la santé dans le contexte du cancer. Ce programme de recherche réalisé dans une perspective canadienne permettra de cerner les principales lacunes de nos connaissances et procurera à de jeunes chercheurs oeuvrant dans les sciences infirmières et dans d'autres disciplines l'encadrement et les encouragements nécessaires pour y remédier. Mary Ellen Jeans a eu recours en 1983 à une approche semblable pour définir un programme canadien de recherche sur la douleur. En cernant ainsi les lacunes qui persistent dans nos connaissances, nous pourrons mieux concentrer nos ressources limitées dans les secteurs où il est essentiel de réaliser des études dans une perspective résolument canadienne.

En recherche biomédicale fondamentale, le chercheur peut présumer qu'il est possible de reproduire les résultats de ses recherches dans n'importe quel autre laboratoire; en sciences infirmières, le chercheur ne peut s'offrir ce luxe. Si nous formulons nos projets de recherche en fonction des connaissances découlant d'études essentiellement américaines, nous risquons fort de poser les mauvaises questions. Il faut parfois quitter son pays pour voir les choses sous un autre jour.

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TIME ORIENTATIONS
OF INDIAN MOTHERS AND WHITE NURSES

Sharon Ogden Burke, Barbara S. Kisilevsky, and Rita Maloney

Cultural values are important for nurses because beliefs and values have been shown to influence health behaviours (e.g., pain perception: Bates, 1987; perinatal care: Lee, 1986). Little is known about how nurses' values relate to those of people in different ethnic groups, such as Native Indians (Brink, 1984; Tripp-Reimer, 1984). Furthermore, relatively little is known about the current values of North American Indian peoples and no formal studies have been done with Canadian Indians. This study is a first step in describing a particular value: time orientation.

Time orientation was conceptually structured by Kluckhohn and Strodtbeck (1961) as the preferential ordering of time into the Past, the Present and the Future. Time orientations are thought to be a problem when nurse - client differences or misinterpretations hamper health care interactions (Tripp-Reimer, 1984). For example, it is generally held that there are differences in time orientations between Canadian Indians and their predominately White health care providers. Specifically, a White health care professional could have a Future-oriented perspective in responding to an Indian person — failing to perceive the situation from the Indian perspective of Past or Present-orientation (Brant, 1983; England, 1986). The potential for such differences and misunderstandings is the greatest among recent Indian migrants to predominately White cities and among northern Indians where there is a high turn-over of White health care workers (Young, 1988). Basic descriptive research is needed before the hypothesis that ethnically-influenced time orientation differences hamper health care can be tested.

Review of the Literature

A theoretical construct of time

The earliest research on the construct of time was conducted by Kluckhohn and Strodtbeck (1961) among White and American Indian groups in the mid-

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west. References to their value-based, theoretical construct of time and findings are the most common citations in the cross-cultural health care literature (Brink, 1984; Orque, Block & Monrroy, 1983; Papajohn & Spiegel, 1975; Tripp-Reimer, 1984).

Other constructs of time are: perceived elapsed time or subjective time; clock time or objective time; and the relationship of these to each other or to consciousness (Newman, 1982; for a review of these constructs see Nojima et al., 1987). Subjective time is somewhat related to the Kluckhohn and Strodtbeck value orientation construct of time: it deals with the size or duration of the temporal Present, but it is not conceptually linked to either distant Past or Future orientations. Although objective time has a Past, Present and Future, it is missing the value construct. Therefore, these constructs of time were not used in this study.

From the value orientation perspective, cultures in which temporal focus is the Past emphasize tradition; those that focus on the Present place less emphasis on history or tradition; and those that focus on the Future emphasize planning for change at up coming points (Papajohn & Spiegel, 1975). The Kluckhohn and Strodtbeck (1961) study demonstrated that various ethnic groups all value the Past, the Present, and the Future, but they differ in the emphasis placed on each. They compared several ethnic groups residing in the same geographic area of the United States. They found that two groups of English-speaking Americans rank-ordered time as Future > Present > Past. In contrast, two groups of North American Indians ranked time in the order of Present > Past > Future.

Although subsequent work tends to confirm the influence of ethnicity (Brink, 1984; Tripp-Reimer, 1984), time orientation has been found to be affected by other factors. For example, Roberts and Greene (1971), using stories written about pictures, reported that time orientation was dependent upon the context of the situation in 112 adolescents in three ethnic groups. Extending the more unidimensional work of Kluckhohn and Strodtbeck (1961), they found that the American-Indian and Spanish-American groups were more Past oriented for religious content, but not on social content when compared with Anglo-Americans.

Time orientation has also been shown to be influenced by state of wellness (Nojima et al., 1987); age (Newman, 1982; Roberts & Greene, 1971); and gender (Kluckhohn & Strodtbeck, 1961; Newman, 1982; Roberts & Greene, 1971). However, whether or not other socio-demographic factors influence the Past-Present-Future construct of time is not known.

In summary, because time orientations vary widely between cultural groups, within care-giving contexts and by age group, states of wellness and

gender, the natural tendency is for nurses to generalize to the client from their own perspectives. This "nurse's perspective" could include personal, ethnically-influenced values and broad assumptions about a client's values, based on the nurse's perceptions of the client's ethnic group. Such potentially inaccurate views or over-generalizations could interfere with communications and, therefore, health care outcomes (Hein, 1980). A clear understanding of both nurse and client factors influencing time orientations would lead to more effective interaction.

Culture, acculturation and ethnicity

The concepts of culture, acculturation and ethnicity are central to the understanding of values. Culture is the entire lifeways of a human group and, as such, includes values, beliefs, customs and behaviours learned and shared by the interacting group (Tripp-Reimer, 1984). The word *culture* is sometimes used interchangeably with *ethnic group*. Ethnic group is commonly used when there are several sets of cultural lifeways in simultaneous or close play, as with most Euro-Canadians or Canadian Indians today. However, ethnicity has many facets and many researchers use race and language as indicators (Smith, 1980). Most importantly, ethnicity includes the notions of degree of awareness of the ethnic group and affiliation with the ethnic group and its culturally influenced beliefs and values (Peterson, 1978). Ethnicity is an important factor in providing high quality nursing care (Kub, 1986).

Acculturation is a process that occurs when people of different cultures come in close continual contact: it involves changes in the cultural patterns of one or both people (Richman, Gavira, Flaherty, Birz, & Wintrob, 1987). This phenomenon has stages, degrees and several possible outcomes; for example, assimilation, integration, separation and marginalization (Berry, 1980). The process comes into play when a White woman enters the nursing profession. She integrates the values and beliefs of the White health care sub-culture with those she held before entering nursing and develops an awareness of herself as a nurse. Acculturation also comes into play when a native person leaves her place of birth and comes to a large White city. For such a native woman, cultural values such as time orientation might be altered toward the White values (assimilation); balanced between native and White perspectives (integration); adhered to at home while adhering to White ways at work (separation); or, they could become confused in both White and native settings (marginalization).

Time from Indian, White, and nurse perspectives

Time, according to Mohawk psychiatrist Brant (1983), is grounded in Past-oriented traditions and beliefs. In contrast, White health care workers' Present-oriented values are based on rigid protocols and scheduled,

seemingly context independent appointments, medications or treatments. Health care workers' Future orientation is related to prevention of illness and complications; this runs counter to the Indian beliefs in maintaining a proper balance among all things and awaiting the right time for specific health care actions. For example, a Cree woman who personally did not wish to have another child, waited for the right time for her tubal ligation. In consideration of the Past-oriented traditions of her family and village, the right time was after her next child.

White nurses' time orientations are believed to be similar to those of their ethnic group. In health care contexts however, health care professionals are thought to have shared, strongly grounded beliefs about the "correct" time orientations. For example, in relation to a severe traumatic injury, Present time orientation is highly valued. In relation to preventive actions for health promotion, a strong Future orientation is held. The Past is valued only as a factor that will influence the present crisis or future health.

"Indian time" is a White term developed out of the misunderstandings that have arisen when Indian and White time orientations have come into conflict. These misunderstandings cluster around the White Present and Future-oriented views. There is a long history of such misunderstandings in the Canadian North (Young, 1988).

Method

The purpose of this study is to describe time orientations with particular reference to health care among nurses, Canadian Indians and Whites; to compare time orientations among groups; and to explore the relationships with selected socio-demographic factors. If Canadian Indians, Whites and nurses have the same values as their counterparts in the United States of 30 years ago and if acculturation theory is correct, the following should hold true.

1. White nurses will be more Future and Present oriented than the Canadian Indians.
2. Indians will be more Past oriented than the Whites.
3. Indians recently migrated to an urban center will be more Past-oriented than the rural Indian group; and,
4. White nurses' time orientations will be different from those of other Whites.
5. No group will differ from their expected time orientation pattern (Indian groups = Present > Past > Future; White groups = Future > Present > Past); and,
6. There will be variations in time orientation by the context of the situation.

Populations, settings and subjects

Time orientations vary by gender. Only women were studied for three reasons. First, most nurses are women. Secondly, among Whites, the responsibility for family health care is primarily the responsibility of the mother (Heller, 1986). Thirdly, among Indian groups, women also bear the primary responsibility for health care: grannies (respected female elders) and aunts share the responsibilities with young mothers. Selection of women with young children increased the likelihood of recent interactions with the health care system for perinatal and well-child care, or acute illness or injury treatment.

Ethnicity was determined by ancestry and subject-ascription (Obidinski, 1978; Sorofman, 1986). Whites were persons of European ancestry, born in or residing in Canada for most of their lives who considered themselves to be "Euro-Canadian". Canadian Indians were of primarily Indian ancestry, who considered themselves to belong to a particular Indian group, such as the Cree or the Ojibway.

Informed, written consent was obtained from a total of 131 mothers. Assent was also obtained from the relevant tribal council, native organizations, elders or nursing departments prior to data collection. The sample included five groups. Two groups were made up of North American Native Indians. Three groups contained women from the dominant North American cultural group referred to as Euro-Canadian Whites, because of their ancestry. The first group included 30 Cree Indian mothers living in an isolated, sub-arctic community (*rural Cree*). The second group included 21 Indian mothers who were purposively selected from an urban pantribal community of recent migrants from across Canada (*urban Indians*). Informal networks and snow-balling were used. Data from three of the Urban Indians were incomplete (2) or did not meet our ethnicity criteria (1) and were not included in analyses — leaving 18 in the group. Twenty-one *urban White* Euro-Canadian mothers were domicile-matched with the urban native Indian group and served as the third group. The fourth group was made up of 30 maternal-child *nurses* working at the referral hospitals for the Cree group in a moderate-sized city. The fifth group comprised 30 Euro-Canadian women who delivered at one of the referral hospitals (*new mothers*). Subjects in groups one, four and five were randomly selected from available Public Health, personnel and clinic lists, respectively.

The new mothers acted as a comparison group for the nurses with whom they were similar, except for acculturation to the health care sub-culture (nursing education and health care system experiences). Both of these groups were White, mothers, in their childbearing years and had a similar

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Table 1

WVOQ Time Orientation Questions[*]

Time Orientation	Child Training	Expectations About Change	Philosophy of Life	Health Care Services Innovations
Question	Some people were talking about the way children should be brought up. Here are three different ideas.	Three young people were talking about what they thought their families would have one day as compared with their fathers and mothers. They each said different things.	People often have very different ideas about what has gone before and what we can expect in life. Here are three ways of thinking about these things.	Some people in a community like yours think that health care services are changing from what they used to be.
Choices Past	Some people say that children should always be taught well the traditions of the past (the ways of the old people). They believe the old ways are best and that it is when children do not follow them too much that things go wrong.	The third one said: I expect my family to be about the same as the family of my father and mother or relatives. The best way is to work hard and plan ways to keep up things as they have been in the past.	Some people think that the ways of the past (ways of the old people or traditional ways) were the most right and the best, and as changes come things get worse. These people think the best way to live is to work hard to keep up the old ways and try to bring them back when they are lost.	Some people are unhappy because of the change. They feel that health care services should be kept as they were in the past.
Present	Some people say that children should be taught some of the old traditions (ways of the old people), but it is wrong to insist that they stick to these ways. These people	The second one said: I don't know whether my family will be better off, the same, or worse off than the family of my father and mother or relatives. Things always	Some people believe it best to give most attention to what is happening now in the present. They say that the past has gone and the future is much too	Some people feel that the old ways for health care services are best, but you just can't hang on to them. It makes life easier just to accept some changes as they come

Time Orientation	Child Training	Expectations About Change	Philosophy of Life	Health Care Services Innovations
Present continued	believe that it is necessary for children always to learn about and take on whatever of the new ways will best help them get along in the world of today.	go up and down even if people do work hard. So one can never really tell how things will be.	uncertain to count on. Things do change, but it is sometimes for the better and sometimes for the worse, so in the long run it is about the same. These people believe the best way to live is to keep those of the old ways that one can - or that one likes - but to be ready to accept the new ways which will help to make life easier and better as we live from year to year.	along.
Future	Some people do not believe children should be taught much about past traditions (the ways of the old people) at all, except as an interesting story of what has gone before. These people believe that the world goes along best when children are taught the things that will make them want to find out for themselves new ways of doing things to replace the old.	The first said: I expect my family to be better off in the future than the family of my father and mother or relatives if we work hard and plan right. Things usually get better for people who really try.	Some people believe that it is almost always the ways of the future - the ways which are still to come - which will be best, and they say that even though there are sometimes small setbacks, change brings improvements in the long run. These people think the best way to live is to look a long time ahead, work hard, and give up many things now so that the future will be better.	Some people are really pleased because of the changes in health care services. They feel that new ways are usually better than old ones, and they like to keep everything - even health care - moving ahead.

*Rank order of choices in the WVOQ is random with respect to time orientation. Questions are spread throughout questionnaire. Subjects select first and second preferences.

geographic domicile. The urban White mothers served as a matched comparison group for the urban Indians with whom they were socio-demographically similar (age, place of residence and socio-economic status) — except for ethnicity. Details of these socio-demographic similarities are reported elsewhere (Burke, Maloney, Pothaar & Baumgart, 1988).

Data collection tool

The Women's Value Orientation Questionnaire (WVOQ) was administered to all groups. There are two other measures of time orientation: the Kluckhohn and Strodtbeck (1961) Value Orientation Questionnaire (VOQ) and the Roberts and Greene (1971) story telling protocol. The WVOQ was the instrument of choice for this study as it is more specific to women than the VOQ and the story telling protocol of Roberts and Greene has only been used with adolescents. The WVOQ was developed from the VOQ and is an updated version, revised for use with women, with good reliability and validity (Burke and Maloney, 1986). The WVOQ has 19 items, four of which pertain to time orientation (Table 1). Subjects choose a first and second best answer, the remaining option is their third choice by default.

Procedure

Data collection was carried out by trained interviewers of similar ethnic background to the women who were interviewed. The full WVOQ is lengthy and involves some reading, so a few mothers had it read to them. Most completed it on their own with the researcher in the same room and a few completed it on their own and mailed it. For the first four groups, the WVOQ was given midway in a two-hour interview, concerning child rearing and child bearing beliefs and values, which was conducted in the subjects' homes. For the new mothers in the fifth group, the WVOQ was part of a two-hour maternal and newborn assessment which was completed post-partum in the hospital.

Analysis

Portions of the analysis are conceptually parallel to Brink's (1984) method; this is the most recent published detail on conceptually parallel VOQ analysis. In addition, other scoring procedures and statistics were used to exploit the strongly ordinal nature of the data. Chi squared (x^2) tests, t-tests and analysis of variance (ANOVA) were done with SAS and BMDP computer software.
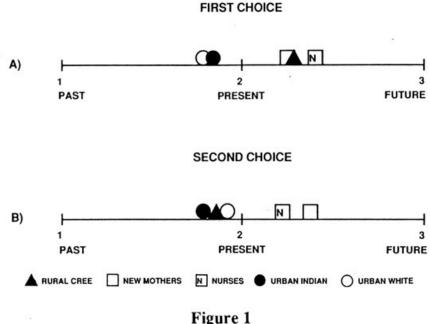
Results

Differences among groups

The first series of analyses compared time orientation preferences across the five groups. We did this to determine whether there were differences in choices across groups, and if these differences were grouped along the hypothesized ethnic and acculturation lines. Ethnically, we expected to find differences in White versus Indian time orientations. Ethnicity and acculturation theory would suggest differences between urban and rural Indian groups. Acculturation theory alone suggests differences between White nurses and White non-nurses.

Responses were scored as 1=Past, 2=Present or 3=Future. First and second choices were analyzed separately. A two-way ANOVA, with one between factor (5 groups) and one within factor (4 questions), was used to examine the differences in the first choice. Significant differences were found for groups ($F(4,120) = 27.56$, $p<.001$), questions $F(3,360) = 41.64$, $p<.001$, and the group by question interaction, $F(12,360) = 5.01$, $p<.001$. The difference across groups was explained by orthogonal contrasts. They revealed significant differences in choices between the urban Indian and the nurse groups ($F(3,360) = 6.17$, $p<.001$); between the rural Cree and the urban Indian groups ($F(3,360) = 7.25$, $p<.001$); and, between the urban White and new mother groups ($F(3,360) = 7.85$, $p<.001$). There were no differences in the first choice between the rural Cree and the nurses. These patterns did not support the study hypotheses of a difference in time orientation, based on ethnicity. Looking at the means for the first choices in Figure 1A, there was a split by geographic region. The two Urban groups were more Present/Past oriented compared with the other three groups which were more Present/Future oriented. Differences across questions or contexts are dealt with below.

When the analysis was repeated for the second-time orientation choices it was found that the groups responded in the manner predicted by the ethnic group differences hypotheses expected for the first choice. Again, significant differences were found across groups ($F(4,120) = 7.99$, $p<.001$), questions $F(3,360) = 18.71$, $p<.001$, and the group by question interaction, $F(12,360) = 5.20$, $p<.001$. The group differences were explained by orthogonal contrasts. As illustrated in Figure 1B, the urban Indians were more Present/Past oriented and the nurses were more Present/Future oriented ($F(3,360) = 8.93$, $p<.001$); the rural Cree were also more Present/Past oriented as compared to the nurses ($F(3,360) = 5.75$, $p<.001$); and, the urban Whites were more Present/Past oriented than the new mothers ($F(3,360) = 4.96$, $p<.001$). The rural Cree and urban Indians did not differ. In summary, the groups formed two clusters on their second choice of time orientations. One cluster included the

rural Cree, urban Indians, and urban Whites who were Present/Past oriented. The other cluster included the White nurses and new mothers who were Present/Future oriented. The differences across questions are dealt with below.

FIRST CHOICE

SECOND CHOICE

▲ RURAL CREE ☐ NEW MOTHERS N NURSES ● URBAN INDIAN ○ URBAN WHITE

Figure 1
Mean time orientation score for each of the five groups
for all questions for the first and second choice

Overall differences from expected time orientation patterns

First choices compared with second choices were significantly different for each question within each group ($x^2(4,\underline{N}=18\text{-}30) = 30.0\text{-}9.9$; $\underline{p}=.05\text{-}<.0001$) with the exception of the expectation of change question for the urban Indians ($x^2(4,\underline{N}=18) = 9$; $\underline{p}=.06$). These results revealed a group consensus; there were different patterns of responses to the time orientation questions than would be expected by chance. The literature predicted patterns that would be expected for the Whites and North American Indians. These expected patterns and the patterns obtained from the five study groups are displayed in Table 2. Variations exist between the expected and the obtained Indian or White time orientation patterns. This finding was unexpected and T-tests were used to determine if these differences were significant. The degree of agreement between a subject's actual choices and her expected time orientation pattern was quantified. Where there was absolute agreement with the expected pattern, a subject's pattern score was 3 for the item. Where there was only a reversal of the first and second choices, leaving the third choice the same as in the expected pattern, a score of 2 was given. For each of these two patterns there is only one possible arrangement. The other four possible arrangements were considered disagreements between expected and obtained patterns and given a score of 1. A sum of these pattern scores across the four questions was computed. Perfect agreement with the

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Table 2

Time Value Orientations: Expected and Actual

Group	Expected Patterns[1]	Observed Orientation[2]	Agreement Score[3]	Question Orientations[4]			
				Child Training	Expec- tations	Philos. of Life	Health Care Innovations
Rural Cree	Pres>P>F	Pres>P>F	5.9	Pres>P>F	Pres>P>F	Pres>F>P	F>Pres>P
Urban Indians	Pres>P>F	Pres>P>F	6.2	Pres>P>F	F>P>Pres	Pres>P>F	F>Pres>P
Urban Whites	F>Pres>P	Pres>F>P	8.3	Pres>F>P	Pres>F>P	Pres>F>P	F>Pres>P
New Mothers	F>Pres>P	Pres>F>P	8.2	Pres>F>P	Pres>P>F	Pres>F>P	F>Pres>P
Nurses	F>Pres>P	Pres>F>P	8.2	Pres>F>P	Pres>P>F	Pres>F>P	F>Pres>P

[1]Based on other studies, see Literature Review.

[2]Most commonly observed pattern across questions.

[3]All groups had significant t's = (18-30), 11.2 - 23.9; $p < .001$ for differences from expected pattern for that ethnic group; 12 = total agreement; 4 = disagreement.

[4]All had significant x^2 of first choice by second choice, pattern shown is cell with largest n for first, then second choice with the third choice by default.

expected pattern yielded a score of 12; total disagreement was given a score of 4.

In all groups each question had significant differences between what the literature predicted with regard to the ethnic group's time orientation and what we found (t=(17-30) 35.0-3.0; p=.01 - $\leq$.0001). As can be seen in Table 2, the groups' total time orientation pattern scores ranged from 8.3 to 5.9, showing significantly high disagreement between expected and obtained patterns.

The largest disagreement from expected overall time orientations was reported among the two Indian groups. This was confirmed by an ANOVA on the total time pattern difference scores among groups (F(4, 121) = 19.12 p<.0001). A Scheffe contrast test showed that the two Indian groups had significantly more disagreement from the expected pattern than did the three White groups.

For the health care innovation question all groups had a Future > Present > Past time orientation. It is notable that the health care innovation question showed a single pattern that was different from every group's overall pattern.

Responses and context

Because only the health care innovation question showed a different pattern from each groups' overall pattern, the final analysis was limited to an examination of group differences on this question. A one-way ANOVA, with one between factor (group), was calculated for first and second choice. Orthogonal comparisons were used to determine differences between groups.

For the first choice, differences across groups, F(4,122) = 23.62, p<.001, were explained by orthogonal comparisons. The urban Indian differed from the nurses F(1,122) = 50.12, p<.001 and the rural Cree F(1,122) = 35.33, p<.001; the urban Whites differed from the new mothers, F(1,122) = 31.46, p<.001; and, the Cree and nurses did not differ, F(1,122) = 1.44, N.S. These findings are summarized in Figure 2A which shows group means and illustrates that the new mothers, nurses, and rural Cree formed one cluster with a Future orientation and the Urban Indian and Whites formed a second cluster that was Present/Past oriented.

The results of the ANOVA repeated with the second choice showed the same split among the groups (F(4,122)=11.06,p<.001). Figure 2B shows group means and illustrates that on this second choice the urban groups were even more Past oriented, while the three other groups were more strongly Present oriented.

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FIRST CHOICE

SECOND CHOICE

▲ RURAL CREE   ☐ NEW MOTHERS   N NURSES   ● URBAN INDIAN   ○ URBAN WHITE
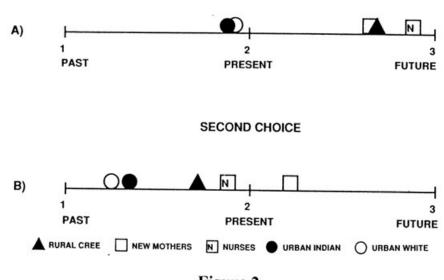
Figure 2
Mean time orientation score for each of the five groups
for health beliefs question for the first and second choice

Discussion

The ethnic differences between Indian and White groups were more subtle
than expected. Differences occurred only at the second choice and not at the
first choice, as had been predicted from previous study findings. That is, in
their second choices, Indians were more Present/Past oriented and Whites
were more Present/Future oriented. This is at variance with earlier work with
different Indian and White groups (Kluckhohn & Strodtbeck, 1961). Dif-
ferences in methods could account for some of the different findings. There
were differences from earlier studies in our subjects' young age, their roles
as mothers, limitation to females, the revisions made in the VOQ, and the
Canadian sample. Alternatively, perhaps the time orientations of the ethnic
groups have shifted over the 25 years since the last study.

The health care literature contains interpretations of Indian beliefs for
Whites. Within this literature there has been an assumption that there is a
common value set, or at least common themes (Brant, 1983; England, 1986;
Tripp-Reimer, 1984). Conversely, most Indian persons and academics with
Anthropology and Sociology backgrounds dispute this. For example, major
differences between Cree groups living near to one another were described
by Preston (1981). To the extent that the latter view is true, generalizations
from one Indian group to another would be limited. These study results are
ambiguous on this point. The urban Indian group contained a wide range of
tribal groups, but had a close within-group consensus; this supports the view
of a common set of values. However, the differences between the urban and

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northern rural Indian groups supports the suggestion of major differences between Indian groups. Therefore, generalizations of these findings to the Indian population are not warranted.

The difference between groups on their first preferences for time orientation could be more readily explained by the place of residence than by ethnicity: urban vs. rural, suburban, small city. The strength of this variable is suggested by the differences found between the rural Indian group and the recent city migrant Indian group. It is further supported by the findings that the consistency within groups on time orientations was high among the two urban (Indian and White) groups. The strong effect of place of residence on time and other value orientations makes intuitive sense, but has not been substantiated in other studies. Given this finding, understanding the differences between the nurse group and other groups is limited because the nurse subjects all resided in a small city/suburban setting.

Context had a significant effect on how these mothers answered the questions. Within the context of health care services, all groups were more Future oriented than they were in other contexts. This finding extends the work of Roberts and Greene (1971) who found differences in time orientations in social as compared to religious contexts. Furthermore, it is consistent with the Burke et al. (1988) finding that, in matters of acute illness, mothers in all these groups prefer the White health care system and its values. Taken together with the Schilder (1981) and Nojima et al. (1987) findings on time perspective when ill or injured, it is reasonable to predict that health concerns, real or anticipated, fall outside of a person's usual time orientation.

The time orientations of the nurse group were at variance with those of client groups when there were differences in place of residence (urban vs. small city/village); ethnicity (Indian vs. White); and, context (general vs. health care). These young mothers were most strongly oriented toward the Present, regardless of group membership. However, there were significant, but subtle, variations toward either Present/Past or Present/Future orientations within most contexts. The exception was in the health care context, in which all groups had a strong Future orientation. Variations in time orientation were found across all five socio-cultural groups, in ways which could not be explained exclusively by ethnicity. Integration of the three factors, context, place of residence and ethnicity explains these results more fully.

In conclusion, the findings bring together separate aspects of the current literature on time orientations. The results suggest that neither ethnicity, place of residence, nor context can be considered in isolation when predicting a group's time orientation. Furthermore, because differences between groups were subtle, and because preferences in the health care context were unique, it may be concluded that the prediction of an individual's time orientation by group membership alone is not likely to be reliable in clinical use.

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RÉSUMÉ

Orientation dans le temps de mères amérindiennes et d'infirmières blanches

La notion de temps existe dans toutes les cultures, mais l'accent mis sur le passé, le présent et l'avenir diffère toutefois d'une culture à l'autre. Cette étude avait pour but de comparer l'orientation dans le temps d'infirmières dispensatrices de soins aux mères et aux enfants et de quatre groupes de clients, à l'aide du questionnaire d'orientation sur les valeurs des femmes. Les sujets retenus étaient des mères avec de jeunes enfants. Les groupes clients étaient constitués d'Indiens cris canadiens vivant en milieu rural et d'Indiens vivant en milieu urbain, et de jeunes mères euro-canadiennes vivant en milieu urbain. De façon générale, on a constaté chez tous les groupes une forte orientation vers le présent, sauf dans le contexte des soins de santé où l'orientation était plutôt tournée vers le futur. Toutefois, les différences subtiles observées entre les groupes pour ce qui est de l'orientation dans le temps étaient liées au lieu de résidence (milieu urbain ou rural), à l'ethnicité (Amérindiens ou Blancs) et au contexte (contexte général ou soins de santé). Toute prédiction par le personnel infirmier de l'orientation dans le temps d'une personne en fonction de sa seule appartenance ethnique n'est donc vraisemblablement pas fiable en milieu clinique.

DEVELOPING CONSENSUS ON CANADIAN FAMILY HEALTH NEEDS: A STEP TOWARDS POLICY DEVELOPMENT

Heather F. Clarke

This paper briefly discusses the relationship between research and policy development, and reports on how the Delphi process was used as a research method for beginning to identify strengths and needs of Canadian families. The research was initiated by the Family and Child Health Unit (FCHU) of Health and Welfare Canada early in 1986 as part of the national health promotion initiative.

Research and Policy

Approaching policy development from a research perspective is certainly not always the practice - nor is it always possible. There are many factors influencing policy development besides research findings. These include: personal experience and ideology of policy makers, political ideology, media attention and other social forces (e.g. interest groups and lobbying).

Although research can and should compliment the policy development process, frequently the timing between research and policy is out of synchrony. Policy development cannot wait until all the findings are in, nor can it wait for the studies to be replicated sufficiently for researchers to feel comfortable in unequivocally stating the significance of their findings to the problem at hand. The community of policy-makers is action-oriented, rarely spending much time communicating to the research community its requirements, processes, or points of intervention.

On the other hand, the research community seldom asks policy makers about their research needs or about methods of presentation that could be helpful in assisting policy officials make choices among alternatives. Researchers should address these issues so that research findings can be presented in a timely and appropriate fashion.

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Research can influence policy in two ways: by clarifying problems that require correction by policy intervention, or by identifying appropriate solutions. Opportunities for combining research expertise and policy formulation responsibilities, although rare, can be found. As Chief of the FCHU, I seized the opportunity to bring a research perspective into the position's responsibilities for programme development and policy formulation. Prior to developing family health promotion progammes, it was essential that health promotion policy that was relevant to families' health needs be formulated. *The Canadian Family Health Needs Survey* was designed to clarify this policy.

The Canadian Family Health Needs Survey

The issue

Of all the variables associated with successful general health promotion programs, the most salient are probably population-based and community development approaches. For family health promotion programs to be successful they must also have family relevancy. Health promotion programmes aim to enable families to increase control over, and to improve, their health - one of the resources for everyday living (WHO, 1984). Health promotion programmes involve "normal" and "problem" families - families with strengths and needs of varying intensities. Thus, a perspective that recognized families as units and targets of care, with strengths as well as needs was required: a perspective that recognized the need for policies and programmes that build on family strengths and assist with solving or meeting family needs and problems. Strengths are family qualities that help families succeed in their family tasks: e.g. appreciate one another, communicate well (Stinnett & DeFrain, 1985).

Initial work by the FCHU revealed that health promotion approaches and family perspectives were still embryonic in family health program development and policy formulation. Although much has been written about individuals, their health and health needs, neither the professional nor popular literature provided much insight into Canadian families' strengths or health needs. Experts in the fields of health and social services have been hesitant to generalize beyond the findings of demonstration programs or their own specific area of expertise. Not surprising, perhaps, has been the paucity of documentation regarding what it is that families identify as family strengths and health needs. It was clear that a better knowledge base was required to contribute to the future work in developing family health programs and policies.

Thus, a study was designed to help determine Canadian family strengths and health needs from a variety of perspectives: from families as units, not

just from one or two informants; from community workers involved with families requiring support; and from social and health service agencies in the families' communities. Because it was preferable to learn from each of these sectors, as well as to determine the degree of consensus regarding the health needs and their priority, the Delphi survey approach was chosen as an appropriate research method.

The Delphi Process

The Delphi technique takes its name from the Greek god Apollo Pythios who, as master of Delphi, was renowned for his ability to predict the future. The purpose of the process is to generate discussion and aggregate the judgments of a number of individuals on a specified topic. Thus policy decisions can be based on data that represent a given group's wants and views (Goodman, 1987). Delphi studies in the health care field have surveyed health professionals' views of spending priorities (Charlton, Patrick, Matthews & West, 1981), canvassed health workers' perceptions of the problems experienced by women of differing cultural groups in their use of maternity services (Anderson & Ruiz-Eglesias 1983), aided health care planning and policy making with minimal uncertainty (Lyons 1981, Rauch 1979), and forecasted the use of medicines in the 1990's (Teeling-Smith, 1969). Lindeman (1975), Snyder Hill (1984), Bond and Bond (1982) and Goodman (1987) have employed the principles of the Delphi technique to establish clinical and nursing research priorities.

A number of characteristics of the Delphi process were considered to be particularly important to the selection and implementation of this research method and for the FCHU's future endeavours. First, the Delphi Process does not require face-to-face contact. Thus, it is particularly useful for involving various people, in a variety of settings, who cannot come together physically. Delphi also allows people to remain anonymous, a Statistics Canada requirement for this national survey. A third important factor was that the research method prevents domination by certain individuals (Delbecq, Van de Ven & Gustafson, 1975). This was critical in obtaining valid and reliable data and removing any perceived threat that families might anticipate of having services withheld.

Method

The research design had to be national in scope with representation from metropolitan, urban, and rural areas. As well, it was important to involve the participating communities as much as possible in the research process to obtain as high as possible a response rate, and retain respondents over the three phases. Each of the initially chosen participants was included in each of the three phases of the Delphi process, regardless of whether or not they responded to the previous phase(s).

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Purposive sampling was employed as the most appropriate technique for both community and respondent selection (Woods & Catanzaro, 1988). Three communities (metropolitan, urban and rural) in each province and two communities (urban and rural) in the two territories were selected by Health and Welfare's five regional offices. The officer responsible for family health programmes in each region chose the communities on the basis of the following criteria: representative of similar communities of the same size within the region; accessible postal and transportation services; and, varied population and services within the community.

Within each community a community worker was contracted to obtain a purposive sample of ten families, ten health care/social service workers and ten social and health care agencies (where possible). The community worker was hired by the Health and Welfare Regional Office on the basis of residency in the selected community; knowledge of the community and its residents; previous experience with the regional office; and, ability to communicate with lay and professional community residents.

The community worker was provided with selection criteria so that a cross-section of the community would be sampled. Families were to include those with and without children; in all phases of the life cycle; in all economic and social levels; and, with varying educations and cultural backgrounds.

Health care and social service workers were to represent all disciplines practising in the community and be as varied as possible. Except for cities, to get a sample of ten agencies, all agencies were approached to participate. When selection was possible, the criteria stated that they should be representative of those providing services to families in that community. Community workers were required to submit names and addresses to the researchers, which provided the initial check that the selection criteria had been applied. This was further validated through analysis of the demographic data provided at the end of the third phase.

Phase One required participants to respond, in narrative format, to a broad question asking about needs and services perceived to be necessary to improve the health of families in that community. The responses were content analyzed into categories and sub-categories of family health needs. Phase Two requested the participants to rate, on a scale of 1 to 100, the importance of each need in the composite list of categories and sub-categories. They were also asked to indicate whether or not these needs were presently being met. Scores for each need were computed from the responses. Items were then rank ordered, based on the scores. The third phase presented the analyzed and reduced data of Phase Two and asked participants to indicate their agreement or disagreement with the results.

External validity was controlled for by the criteria for community and sample selection and verification on analysis of demographic data, while internal validity was addressed by having the questions relate to the present and the study completed in a short space of time. Thus changes in initial perceptions or services were not likely to have occurred, except as respondents reflected upon and reacted to the feedback. Perceptions of the three sub-samples were compared by categories, consensus and priority ratings as a means of determining the internal validity. Stability and intercoder reliability were assessed at intervals in each phase to determine the extent of reliability. Data were recoded and discussed with FCHU staff until consensus was reached.

Special considerations

To increase the likelihood that a successful Delphi process would be completed, it was necessary to ensure that adequate time, participant skill in written communication and high participant motivation were available. A research team was established to ensure that these critical research conditions of the Delphi process would be met.

Adequate time. A time frame of four months was planned for data collection for all three phases. However, the research took six months, because of a number of unanticipated or uncontrollable factors. These included:
    1. extensive time required for pilot testing in both official languages and revising question one;
    2. limited availability of translation services;
    3. variation in postal service delivery time;
    4. extensive narrative data provided in response to Phase One that required analysis for the development of Phase Two; and
    5. high response rate, especially to Phase One.

Participant skill in written communication. Skill in written communication would not pose a problem for social and health care professionals or agency administrators. However, the family situation was different, because the sample was to represent the diversity of the population of the community, including educational and cultural backgrounds. Therefore the following measures were taken: all written materials were produced in both French and English; the instructions and question for Phase One were pilot tested for meaning and a maximum grade seven reading level; the family was requested to respond as a unit, with one member acting as recorder; and community assistance in translation was available for the Inuit speaking population. From the family responses, it was obvious that there was a wide literacy variability, implying that even those with minimal skills in writing either English or French participated. It was also clear that the responses had not just been written by the mother. In some cases, especially in the first

phase, the content reflected other family member involvement; in other cases a younger member noted that they were the scribes of the family responses.

High participant motivation. Participant motivation was addressed in the research design by working through Health and Welfare's regional offices to employ a knowledgeable and credible liaison worker in each community. This community resident identified and contacted survey participants. Other strategies included providing participants with free telephone access to the contracted researcher and following up with letters of appreciation and questions for Phases Two and Three within a short time period.

Except for two metropolitan communities and one community of the territories, the response rate was very good and relatively consistent over the three phases. The response rate for the total survey (all three phases) was approximately 51%, a decrease of only 6% from Phase One, which had a 57% response rate. From a sample size of 750, there were 590 usable responses analyzed in Phase One, 633 in Phase Two and 514 in Phase Three (175 families, 174 agencies and 165 workers).

Family structure ranged from two parents with children to homosexual relationships, with the majority (73%) being two-parent families. The number of members in a family ranged from 1 to >10, with the majority (82%) having 3-5 members. The parents' mean educational level was "some college/university" for both mothers and fathers, while the mean yearly family income was $30-39,999.

The 174 agencies included social, health and medical agencies; family-, children- and elderly-oriented agencies; alcohol and drug-, handicapped-, mental health- and recreation-related agencies; and women's support agencies. Thirty-four different services were provided, with counselling the primary one. Over one third (38%) of the agencies had a waiting list of 25-49 clients. Sixty-six percent of the agencies indicated that they were unable to provide the services they would like to. Public resources were the major source of funding.

The health care/social service workers who responded were social workers (48%), nurses (39%), counselors (27%), teachers (15%), physicians (14%) and others. Almost one quarter (23%) had been practising more than 15 years. The most frequent services they provided were individual counselling (57%), information/referral (55%) and family counselling (44%).

Development of questionnaires

French and English family questionnaires were pilot tested and revised for Phase One. The question, "What does your family do or need to be

healthier?" was changed to, "What do you think families, like yours, living in your community, have or need to have to be healthy?" Respondents found the personal aspect of the pilot question threatening and did not know what "healthier" meant: "healthier than what?" Questionnaires for health care/social service workers and agencies were reviewed by Health and Welfare staff and personnel of two agencies. Few changes were required.

Separate, but comparable instructions and definitions of categories and sub-categories were prepared for each of the three sub-samples of participants for each phase of the survey. Instructions for families asked them to consider the needs of all family members, discuss the question as family and have one member do the writing. All printed materials for the survey were translated into French and back into English to improve the accuracy.

Analysis

Reliability of content analysis was established during Phase One. The first 25 agency and worker responses and first 17 family responses were content analyzed and categories and definitions established. The same responses were then coded by a research assistant, using the developed categories and definitions. Discrepancies were noted and necessary revisions made. The remaining responses (total 548) were then coded. For those responses that did not fit any one of the categories, new category names and definitions were developed. A master list of categories, sub-categories and definitions was compiled from each group of respondents. Frequencies for each category and sub-category were determined from the 590 responses.

Means of the 633 responses in Phase Two were calculated for ratings of importance for each item. "Metness" of needs was determined by majority of responses. Analysis of 585 responses to Phase Three established frequencies and means for each category and sub-category of family health needs. The percentage of agreement with results obtained in Phase Two was then calculated. New needs or priorities were noted as they emerged in responses to phases Two and Three.

Findings

Specific findings are compiled in FCHU documents, not yet released to the public. However, it can be reported that in general there was considerable agreement among families, workers and agency administrators as to the categories and priorities of needs. Variations by geographic location were noted in priority ratings of categories as well as among sub-categories. For example, almost all respondents considered that availability of nutritious and fresh food at reasonable prices was highly important, and on the whole the need was met. However, participants from some regions commented that

fresh food was available only seasonally and that the need for information on substitutes was not met. Many felt that school and adult nutrition education was of high importance, and was generally available. The overall rating of the category, Nutrition, was rated as medium importance.

From perspectives of the respondents, family health needs are not just related to medical needs. Analysis of their responses revealed a socio-ecological or holistic approach to health - an approach consistent with that of the World Health Organization: "Basic resources for health are income, shelter and food" (WHO, 1984, 1). Canadians identified health needs that, through content analysis, were categorized as lifestyle behaviours, environmental conditions and community services. *Lifestyle* behaviour included the following categories of family health needs: clothing, leisure time, social relationships, marital relationships, parent-child relationships and self-help skills. Family health needs related to *environmental* conditions included housing, human rights, income, employment and smoke-free environments; while those related to *community* services were transportation, education (child and adult) and health care (medical, mental, dental and substance abuse). These findings support the healthy public policy health promotion strategy (Epp, 1986) and "Family Health Consultations" of Health and Welfare Canada.

Advantages and Limitations

Both limitations and advantages were found in using the Delphi process to assess family health needs and to determine their relative importance. These are discussed according to the four characteristics of the Delphi process: anonymity, iteration with controlled feedback, statistical group response and use of experts.

Anonymity

Although the community liaison worker had knowledge about the participants, this knowledge was neither shared among participants, nor with the research team. The only information given to the research team were names and addresses, for mailing purposes only. The returned anonymous questionnaires were coded by postmarks, for community analysis and comparison purposes. When the Phase Three questionnaire was distributed, each respondent was asked to complete a separate demographic profile sheet. Although this information sheet was separated from the questionnaire, the response rate for Phase Three decreased. Until then, it appeared that the respondents considered that their participation was indeed anonymous.

The obvious advantage of guaranteed anonymity is that it encourages opinions that are true and not influenced by peer pressure or other extrinsic

factors. Sackman (1975) suggests that anonymity may encourage snap judgments with the respondents secure in the knowledge that they will not be answerable to the other participants for what is said. However, in the majority of Delphi studies, including this one, individuals participating are recruited on the basis of their knowledge and willingness to participate, so that instant, unconsidered responses may be less likely to occur.

In the Canadian Family Health Needs Survey it was assumed that the anonymity of responses promoted an honest expression of views and contributed to the validity of the study. Each participant had an opinion to express, and was protected by the Delphi process from penalty or mockery for expressing that opinion.

Iteration with controlled feedback

Iteration with controlled feedback is usually achieved in Delphi studies through the use of successive questionnaires, to keep participants informed of the current status of the collective opinion, and to provide opportunities to comment further, to amend an original view or both. This essentially democratic characteristic of the Delphi process yielded a group opinion that had a considerable degree of representativeness.

Once subjects agreed to participate in the study, they were kept informed of the current status of the collective group opinion by receiving the information about each phase. The instructions encouraged collective responses: families were asked to respond as families, and to consider all the members and their needs; agency administrators were requested to respond for the agency. It was evident from the many hand written pages of responses, especially to Phase One, that this indeed had been a collective exercise.

The definition of health was intentionally broad, but perhaps led respondents to write wish lists with items that perhaps were "nice to have" instead of "needed to have". In attempting to satisfy Delphi's requirements of analysis and synthesis for Phase Two, some of the items of Phase One were taken out of the respondents' total original response. This may have caused confusion for some who did not recognize their Phase One answers, as they then had to interpret the meaning of the items in order to rate them.

Statistical group response

A statistical summary of the group's views on specific items, obtained through Delphi's feedback process with successive questionnaires, was a distinct advantage for the Canadian Survey. Two types of information were fed back to the Survey respondents: types and importance of health needs and services; and, whether or not these needs were met. The Delphi process

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enabled respondents to express a degree of personal preference or dislike of an item, without taking a stand on a particular item at the expense of others. Yet, they could see where their opinion lay in relation to that of the total group. A study by Mullen (1983) demonstrated that respondents were more likely to remain close to their original opinions with such an approach. This was corroborated in the Canadian Family Health Needs Survey. Many respondents stated that they still agreed with their previous responses; they had changed only rating the priority.

A limitation of the Canadian Survey may be that there is no guarantee that the allocation of rating items, to prioritize them, was done with any more consideration than if the respondents had been asked to rank the individual items. Some respondents either stated they made "educated guesses" or did not rate items with which they were unfamiliar. These findings are similar to those of a study done in Kent (Charlton et al., 1981).

Consistent with Goodman's (1987) review, the Canadian Family Health Needs Survey indicated that the Delphi technique lent itself best to gathering opinion and initiating debate, as opposed to obtaining an in-depth analysis of family health issues. It was also apparent that the decision-making process of determining priorities relied more on the participants' understanding of the study's aims than on feedback they received during the study. There were few comments related to feedback. Rather, the comments were further explanations of the respondent's choice or clarification of the choice, vis a vis the study's questions. The contractor received calls throughout the three phases, requesting clarification of instructions or verification of the process the respondent was using (e.g. was it all right to include different family members from one phase to another?).

Goodman (1987) considers communication and decision making between interested, involved, but anonymous individuals to be pivotal to a Delphi study. Furthermore, she states that the emphasis should not be on making definitive judgments, but rather on determining the degree of stability of group response on an item (Goodman, 1987). Final judgments must always take into account the distribution of responses, including disagreements. Both distribution and disagreements were salient to interpreting the results of this national research. Although it was apparent what the priority issues were from the analysis, it was also important to know where there was disagreement and what this disagreement looked like, (e.g. geographic characteristics, variation within or among the sub-samples).

Use of experts

The originators of the Delphi technique tend not to advocate a random sample of panelists who are representative of the target population. Instead,

the use of experts or at least informed advocates is recommended, especially for policy issues.

The Canadian study recruited informed individuals from three expert categories - families, workers and administrators - from each province and territory in Canada. The research method allowed attention to be paid to a variety of demographic factors, in sample selection that encouraged a repre-sentativeness of Canadian families and their health needs and provided a means to assess validity.

Another advantage of the study's sampling process was the high level of commitment shown by the respondents. This was evidenced in the low attri-tion rate, frequency of telephone calls made to the researcher for clarification or feedback, and number of apologies made for non-response within the allo-cated time. Many respondents expressed their appreciation for having been given the opportunity to provide information on issues they believed were critical to the health of Canadians.

Discussion

The Delphi technique was useful for initiating discussion on Canadian Family Health Needs and obtaining collective subjective statements. Indeed, it was found to be a process that could contribute significantly to program and policy development. However, there is still reluctance on the part of many people working with program development and policy formulation to accept the findings of the Delphi approach, as compared to other more quantitative survey methods, even when scientific rigor, validity and reliability can be demonstrated. Having the study approved by Statistics Canada was helpful, but there was still considerable hesitancy to use the results explicitly to develop family health policy and programs.

Although providing accurate data bases from systematic nursing research is one of the major strategies through which nursing can shape public policy and health care policy, nurses must also develop strategies to assist with the interpretation and assessment of the research methods and findings. Shaping health policy at various levels, including the practice environment and the health care system, requires that nurse-researchers become familiar with the policy process, timing of decisions, the types of information used and the format of presentations that will maximize the use of their research (Hinshaw, 1988). *That is our challenge.*

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RÉSUMÉ

Vers un consensus sur les besoins des familles canadiennes en matière de santé: Une étape dans la formulation d'une politique

Certes, la formulation d'une politique devrait idéalement être fondée, du moins en partie, sur les résultats de recherches, mais cela n'est pas toujours possible. Cet article décrit l'un des rares cas où des recherches ont fait partie intégrante du processus préparatoire à la formulation d'une politique et d'un programme. En utilisant le processus Delphi, nous avons commencé à cerner les besoins sanitaires des familles canadiennes, dans l'optique des familles, des pourvoyeurs de soins et des services communautaires à caractère familial. Trois communautés dans chacune des provinces et territoires canadiens ont été échantillonnées au cours des trois phases du processus, qui a permis d'obtenir un taux de réponse supérieur à 50 %. Une équipe de chercheurs a été constituée pour veiller au respect des conditions de recherche délicates du processus Delphi. L'analyse de ce processus comme moyen d'obtenir des données en vue de la formulation de politiques et de programmes indique que les avantages du processus l'emportent sur ses inconvénients, et qu'il est possible de dégager un consensus et de définir des priorités entre les familles, les pourvoyeurs de soins et les organismes.

Canadian Bioethics Society
2nd Annual Meeting

Date:

November 23-24, 1990

Theme:

"Autonomy, Donation and Sharing as Issues in Bioethics"

Place:

Chateau Frontenac, Quebec City, Quebec

Coordinator:

Harry Grantham, President of the 1990 meeting

L'Hôtel-Dieu de Québec

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Société Canadienne de Bioéthique
2e assemblée annuelle

Date:

Les 23 et 24 novembre, 1990

Theme:

"Autonomie, Don et Partage en Bioéthique"

Endroit:

Château Frontenac, Québec, Québec

Responsable:

Harry Grantham, Président du Congrès

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ISSUES IN
MEDICATION COMPLIANCE RESEARCH

Celia Oseasohn, Elaine A. Graveley and Nancy C. Hudepohl

Drug noncompliance poses a serious threat to the health of patients and to their financial well-being. Since Schwartz and her colleagues (1962) undertook their classic study of medication compliance among elderly patients, finding that 59% of them were making medication errors, researchers have been interested in studying this problem. A review of the literature indicates that, although there has been a considerable amount of research in this area, the prevalence of noncompliance persists. Estimates of noncompliance range from 15% to 93% (Brand & Smith, 1974; Martin & Coats, 1987; Robertson, 1985).

The consequences of noncompliance are multifaceted. From a research standpoint, noncompliance clouds the efficacy of therapy and compromises the generalizability of clinical studies. For the patients, noncompliance may diminish the benefits of preventive or curative services. Additionally, it may foster both unnecessary diagnostic studies and treatments; this increases the cost and health risks to patients (Becker, 1985; Carey, 1984).

Noncompliance with medical prescriptions has long been a serious problem in the management of both acute and chronic illness. Estimates from the general population suggest that patients fail to have filled one-third of prescriptions written, have filled but do not adequately comply with the dosage regimen for another one-third, and comply with the prescribed medication regimen in one-third of the cases (Robertson, 1985).

Consideration of health care costs alone makes noncompliance a critical issue. In 1965, health care costs in the United States (U.S.) consumed 6.1% of the Gross National Product (GNP); in 1983 that figure rose to 10.8%. Economists predict it will reach 12 to 15% of the GNP by 1990 (Aaron & Schwartz, 1985). From 1970 to 1977, the average number of prescriptions per year for persons over 65 years increased from 13.4 to 17.9 (Lamy, 1984). Snedden and Cadieux (1988) reported a per person average increase in this

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age group from 18 in 1984 to 25 prescriptions a year in 1987. The average cost of a prescription drug increased 4.3% annually from 1970 to 1978, and from 1980 to the present it has increased at an annual rate of 10%. According to the Pharmaceutical Manufacturers' Association the average cost of a prescription drug in 1977 was $5.98, by 1987 it rose to $15.32 (Scripps Howard Service, 1988), a 156% increase.

Persons with a chronic illness (young or old) are likely to find it necessary to follow a multi-drug regimen for long periods of time. Adherence to a medication regimen appears to decrease proportionately after prolonged usage and with an increase in the number of medications prescribed (Baum, Kennedy, Forbes & Jones, 1985; Cooper, Love & Raffoul, 1982; Kendrick & Bayne, 1982; Murray, Darnell, Weinberger & Martz, 1986).

Noncompliance with the drug regimen has magnified the problem of readmission for the medically compromised and the geriatric population. After conducting a six-month post-hospital discharge study of 158 elderly, Brand and Smith (1974) found that 42% of the patients had not adhered to their physician's medication prescriptions and 34% had to be readmitted to the hospital. McKenney and Harrison (1976) studied hospital readmission records and found that 10 to 17% of the readmissions were related to noncompliance. Findings from other studies conducted by Anderson (1974); Levy, Mermelstein and Hemo (1982); Miller (1973); and Wandless, Mucklow, Smith and Prudham (1979) concurred that the incorrect use of medications was a leading cause of hospitalization.

Problems in Designing Research on Noncompliance

Definitions

We know that noncompliance is a problem. A single acceptable definition would be helpful to researchers in measuring noncompliance. A review of the literature quickly points out the difficulty in conducting compliance research: the lack of a single operational definition. Reviews by Marston (1970) and the World Health Organization ([WHO] 1980) found no universally-accepted definition of the term "compliance" existed. Reviewing the literature through 1987 showed the same deficit. The absence of a common operational definition makes it particularly difficult to interpret or compare studies.

Haynes, Taylor and Sackett (1979) defined compliance as, "The extent to which a person's behaviour (in terms of taking medications, following diets or executing life-style changes), coincides with medical or health advice" (p.XV). Complete adherence was also used to define compliance by McDonald and Grimm (1985); Ross and Guggenheim (1983); Ruffalo,

Garabedian-Ruffalo and Pawlson (1985); and Sbarbaro (1985). Complete adherence was implied, but was not defined, in studies by Epstein (1984), Goldoft and Gosky (1981), and Zola (1986).

Other researchers have undertaken the study of levels of compliance. For example, Gordis (1979) divided compliance into three levels: noncompliers, 0-25%, intermediate compliers, 26-74%; compliers, 75-100%. Wandless et al. (1979) used between 90-110% conformity as the boundaries for compliance. Cooper et al. (1982) were more liberal and defined "underuse" if the subject took less than 75% of the prescribed dose and "overuse" as taking more that 125% on a regular basis.

Goldsmith (1979) classified persons as compliant if they took 80-110% of the prescribed medication. This definition has had increasing acceptance amongst researchers in the area of compliance (Cockburn, Gibberd, Reid & Sanson-Fisher, 1987; Garnett, Davis, McKenney and Steiner 1981; Smith and Andrew, 1983).

While one can appreciate the origins of the variance found in the operational definitions of compliance and the unclear relationship of compliance and therapeutic effect, generalizability problems will continue to plague compliance studies unless researchers adopt a definition that can be effectively used to allow valid comparisons across studies (Goldsmith, 1979).

Measurements

Since the reviews by Marston (1970) and WHO (1980), researchers have commonly used several methods to measure and predict noncompliance. Measures are: subjective (physician and patient reports), objective (laboratory tests, pill counts and clinical signs) and predictive (demographics, diagnoses, knowledge, number of medications, information giver and environmental factors).

Subjective measures

Patient report. Hays and DiMatteo (1987) confirm that the patient report is an unsatisfactory measure. They note a 27 to 36% discrepancy between patients' verbal reports and objective measures such as pill counts, urine tests, prescription refills and blood levels. Similar findings of patients' overestimation of compliance were reported by Gordis (1979).

Physician report. Overestimation of compliance levels also are found in studies using physician report (Charney et al., 1967; Davis, 1967; Roth, 1984). In discussing their findings, Gilbert, Evans, Haynes and Tugwell (1980) reported that although 10 family practitioners knew 58 of their

patients for over five years, their ability to predict compliance to digoxin therapy was no greater than chance.

Objective measures

Laboratory tests and clinical signs. Urine and blood analysis have been used to obtain objective data on patients' compliance. Maddock (1967) studied the adherence of 75 pulmonary tuberculosis patients to anti-tuberculosis drugs; three urine assays were performed within a six-month period. Thirty percent of these patients tested negative for one drug, while 42% tested negative for the other drug.

Craig (1985) measured blood pressure levels and urine assays for antihypertensive drugs. The findings showed that 25% of the 40 subjects being treated for hypertension were noncompliant by urine analysis and another 25% by blood pressure levels.

Predictive measures

Demographic variables. So far we have considered factors that answer the question, "Is the patient compliant?" Researchers must also try to predict which patient is likely to be noncompliant. Studies that correlate demographic data with compliance rates have attempted to answer this question.

The most common demographic variables found in correlational studies of compliance include age, sex, marital status and educational levels. However, little evidence supports a consistent correlation of these variables with medication compliance (Craig, 1985; Klein, German, McPhee, Smith & Levine, 1982; Levy et al., 1982; Owen, Friesen, Roberts & Flux, 1985; Schatz, 1988; WHO, 1980). For example, Cooper et al. (1982) interviewed 111 persons, who were taking prescription drugs in their homes and found no correlation between compliance (defined as adherence to prescription directions) and age, race, sex, level of education and income.

Diagnosis. Diagnosis has also been studied as a possible factor influencing compliance. Cooper et al. (1982); and Lundin, Eros, Melloh and Sands (1980) found no correlation between diagnosis and compliance.

Knowledge. Level of a patient's knowledge about medication is another variable that has intuitive appeal for correlating with compliance. While in some instances it has had some correlation, the majority of this research literature indicates that knowledge, of itself, has no significant correlation with compliance (Klein et al., 1982; Lundin et al., 1980).

Information giver. Some researchers have studied the effect of the "information giver" on compliance. Hecht (1974) studied a select group of 45 patients with tuberculosis; he found that adherence significantly improved with several information sessions conducted by nurses in the hospital and in the home after discharge. Benfari, Eaker & Stoll (1981) and Davis (1967) found that a positive relationship between the patient and caregiver improved compliance.

Number of drugs. Most drug compliance studies have been conducted with only one medication (Cockburn et al., 1987; Gilbert et al., 1980; Inui, Carter and Pecoraro, 1981; Rudd et al. (1988); whereas the chronically ill take an average of four medications (Solan, 1987). A study conducted by Ostrom, Hammarlund, Christensen, Plein and Kethley (1985) reported additional factors to be considered. They interviewed 183 persons who lived independently in federally-subsidized, urban housing. They formulated questions to determine the number and type of medications taken, compliance, medication storage and use of pharmacy service. Results showed that 75% used a prescription drug regularly, and 82% used an over-the-counter drug regularly. The average number of drugs (prescription and nonprescription), was 4.5 per person.

Environmental factors. Researchers have also studied environmental variables such as socio-economic status, living arrangements and support systems (Doherty, Schrott, Metcalf & Iasiello-Vailas, 1983; Ryan & Falco, 1985), to determine their effect on compliance. Socio-economic status has not been found to be a predictor for compliance (Cooper et al., 1982; Maddock, 1967). Instead, Benfari et al. (1981) and Davis (1967) found that compliance depended on the degree of congruence between the norms, values and interaction between the patient and the advice given by the doctor.

Levine, Green, Deeds, Chalow, Russell and Finlay (1979) and Miller, Johnson, Garrett, Wickoff and McMahon (1982) found family support to be an important factor for patients to maintain long-term adherence to their medication regimens. Doherty et al. (1983), in a study involving 150 males enrolled in a Coronary Primary Prevention Trial, reported that, in the "high support by wives" group, the adherence to medication averaged 96% - considerably higher than the 70% in the "low-support wives" group.

Several researchers found that noncompliance was related to the complexity of the dosage regimen and the number of pills to be taken daily. Will simplifying the regimen lead to greater compliance?

Discussion and Recommendations

Nursing places a high priority on helping patients adjust to needed changes in their lifestyles as it relates to nutrition, exercise, self-care, etc. The authors

believe that nurses should also place a high priority on working with patients who are on multiple drug therapy. Nurses must accept more responsibility to negotiate the medication regimen with patients so that it causes the least interruption in their lifestyles.

The literature review suggests that Goldsmith's (1979) formula for compliance is acceptable to many investigators because it allows the patient some flexibility. Nurse researchers might use this guideline to study how their interventions can affect this problem. Areas for further research should take into account the finding reviewed in the measurement section, and might include the effect of the following interventions on compliance.

Nurse involvement in drug management

1. Taking responsibility for medication history, including ability to comply (e.g. cost and convenience).
2. Frequently reviewing prescribed and over-the-counter medications, with the goal of reducing the number of drugs and the possibility of incompatibility.
3. Simplifying the drug regimen (e.g. decreasing frequency, use of long acting drugs, etc.).
4. Exploring the effectiveness of various types of patient educational materials.

Involving family, significant others or both

1. Planning a regimen that fits the family's lifestyle.
2. Helping the patient and family to understand and accept the diagnosis and recommendations for treatment.

Nurse involvement in long-term patient compliance

1. Writing down instructions that are easy to read and understandable, (e.g. "blood pressure pill", as well as generic or trade name).
2. Following up on the patient, (e.g. phone call, reminder card, asking patient to bring in all drugs at each visit).
3. Giving out a phone number that the patient or family can feel free to call about problems with taking the medications, (e.g. side effects, new symptoms, etc.).

Nursing has a responsibility in working with the chronically ill and aged in all aspects of their care. Perhaps greater nursing involvement in patient drug management will result in better health and decreased costs. These interventions should be studied in order to determine their feasibility and cost effectiveness.

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RÉSUMÉ

Questions de recherche en observance médicamenteuse

Depuis les années soixante, chercheurs et professionnels de la santé se penchent sur la non observance médicamenteuse. La non adhésion au traitement influe négativement sur la santé du malade et accroît les coûts des soins médicaux. Les questions soulevées par la recherche d'une définition fonctionnelle de l'observance médicamenteuse et la détermination de mesures utiles de non observance sont exposées. D'autres domaines de recherche sont envisagés.

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A STUDY OF ROLE PERFORMANCE IN SPECIALTY OUTPATIENT CLINICS

Robin Weir and Gina Browne

For 25 years the role of the nurse in clinical practice has been the subject of extensive inquiry, evaluation and recommendations. The emphasis in this particular body of literature has been on defining the rights, expectations and obligations of the nurse's role in a variety of different situations. This is in keeping with the structural-functional orientation of role theory (Banton, 1968; Gordon, 1966). Less attention has been given to determining the conditions under which various types of roles emerge. This type of investigation would be best located within the social-psychological orientation where behaviour is viewed as situationally derived, in part, from the demands and expectations of others (Palmer, 1970; Sarbin, 1966). From this perspective, the enactment of a role is interactive and circular in that it involves persons simultaneously fitting their acts into the ongoing acts of the other, and each receiving some sort of role support by the other (Carson, 1970). Thus, the behaviour of a part of a system (nurse's role) in a situation (clinical practice) can be partly understood in terms of the behaviour of the rest of the system (health care team; health care organization) (Von Bertalanffy, 1968; Ruesch & Bateson, 1951). It is the absence of this perspective in the literature that this study addresses.

The enactment of a role does not occur in a vacuum but is interactive, by definition. Thus, conceivably it could be affected by the individual's educational preparation and experience, the availability and roles of other resources in this situation as well as the organizational structure and complexity of work demands. To test these assumptions, the present study was designed to compare the activities of nurses with different educational preparation (RN and RNA), while assessing the relationship between these activities and the confounding effects of the organizational arrangement and organizational demand. The College of Nurses of Ontario regulates the practice of nursing by establishing standards of practice which are required by each level of registrant, i.e., R.N. and R.N.A. Clear guidelines for practice

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have been developed to indicate the types of procedures and responsibilities for each level of registrant.

The literature on the nurse's role is largely descriptive and can be seen as representing three general conceptualizations of role: prescribed, subjective and enacted. When measured empirically, these three constructs also show a close relationship (Habeeb & McLaughlin, 1977). In other words, when nurse members correctly perceive the social norms that govern their behaviour, such as attending team conferences, following the physician's orders or making nursing care plans, there is a congruence between their subjective role (what they expect of themselves in the work situation) and the prescribed role (how the system expects them to act in their jobs). Similarly, when the professional staff act (real role) according to what they believe is required of them (ideal role) there is a congruence between their enacted and subjective roles (Habeeb & McLaughlin, 1977). In addition, successful role performance depends on the expectations and performance of other persons in the interaction. Activities of nurses are affected by numerous variables, such as economics, other resources and policies. Cost conscious hospital administrators may limit the numbers, types and proportional mixes of registered nurses and registered nursing assistants in particular settings. Given the overlap between RNs and RNAs in defined permissible actions, under certain circumstances, shifts in activities should also occur. Similarly, the availability and accessibility of other members of the health care team also may affect the particular activities of the nurses in the setting. During "off hours" nurses are frequently expected to assume some of the activities or responsibilities of other members of the health care team. Policies and routines in the various settings, such as staffing patterns or procedures for administering medications, also influence nurse activity (Howarth, 1972). Studies do not usually distinguish between the effect of these variables (the context or organizational structure) from the expected role performance. Nurses work as members of health care teams and presumably influence, and are influenced by, both the organizational structure and the types of other health care workers with whom they work. How these variables influence the role performance of the nurse and the implications for nursing practice are largely unknown. To address this gap in understanding, we undertook this study examining the role of the nurse in a specific context. Specifically, this study examined two types of nurses' roles in an outpatient clinic setting, from three perspectives - enacted, subjective and prescribed roles, in order to capture a more complete picture of influences on role performance.

In the literature reviewed, little attention was directed to the study of actual role performance (enacted role) in the variety of clinical situations in which nurses were employed. The notable exception was the nurse practitioner studies of the 1970's (Kergin, Yoshida & Tidey, 1972). More recently, although there is much interest in the role and function of the clinical nurse

Table 1
Literature Review

Author	Sample	Design	Questionnaire	Self-Report	Interview	Check List	Observation
Lewis, C. et al. (1969)	RN Clinic MD Clinic	Before-after	+				
Kahn, L., & Wirth, P. (1975)	3 NPs and 4 MDs	Before-after					+ MDs only
Bullough, B. et al. (1977)	75 NPs	Survey	+	+			
Gray, J. et al. (1977)	44 graduating seniors of diploma and BScN	Survey	+				
Habeeb, C., & McLaughlin, F. (1977)	15 RNs 15 SWs	Survey			+		
Chaska, N. (1978)	303 RNs	Survey			+		
Levine, J. et al. (1978)	58 NPs 46 MDs	Survey	+	+	+	+	
Christensen, M. et al. (1979)	53 NPs	Survey		+		+	
Weiss, S. (1983)	24 RNs 24 MDs	Descriptive		+			
Yauger, R. A. (1984)	RNs and LPNs	Survey		+			
Kinney, C. K. (1985)	101 graduating BScN students	Survey	+				
Prescott P. & Bowen .S (1985)	1044 RNs 536 MDs	Survey		+	+		
Rustin, J. et al. (1985)	43 hospitals	Survey	+				

RN = Registered Nurse; MD = Medical Doctor; NP = Nurse Practitioner; SW = Social Worker; LPN = Licensed Practical Nurse

specialist, there is a paucity of study (Merritt, Mitchell & Pogel, 1988). Of those studies that did attempt to describe the role of the nurse, the majority employed interview and questionnaire methods to explore the perceptions of nurses and other health care practitioners about the actual and ideal role of the nurse. None of the studies examined the actual (observed) activities of the nurse in clinical practice, nor the variables (context, types of other personnel) in the situation that might have influenced performance. A summary of these studies is presented in Tables 1 and 2.

Table 2
Literature Review: Role description

Author	Outcome Role Description		Method	
	Real	Ideal	Reported	Observed
Lewis, C. et al. (1969)	+		+	
Kahn, L. et al. (1975)	+		+	
Bullough, B. et al. (1977)	+		+	
Gray, J. et al. (1977)		+	+	
Habeeb, C. et al. (1977)		+	+	
Chaska, N. (1978)	+	+	+	
Levine, J. et al. (1978)	+		+	
Christensen, M. et al. (1979)				
Weiss, S. (1983)	+		+	
Yauger, R. A. (1984)	+		+	
Kinney, C. K. (1985)	+		+	
Prescott, P. et al. (1985)	+		+	
Rustin, J. et al. (1985)	+		+	

The dearth of observation studies is hardly surprising given the complexity of the clinical situation and the problems inherent in direct observation. None of the exploratory literature that was reviewed however, offered a comprehensive view of professional role functions.

We chose to conceive of a professional role as, in part, determined by the organizational structure and complexity of the work situation. Given the weakness in the quality of the evidence previously cited, as well as the incompleteness in conceptualizing role function, we undertook the following study.

Purpose of the study

The purposes of this study were to assess the role activities of two types of nurses (RNs and RNAs) under different demand conditions and organizational arrangements.

Organizational demand refers to the number of physicians simultaneously holding clinics in a designated area. High demand was defined as three or more physicians. Low demand was two or less physicians.

Organizational arrangement refers to the type of clinic team structure that resulted from the type of demand or the number of concurrent clinics. A co-ordinative team structure was defined as one in which one nurse related to three or more physicians. A collaborative team structure was one in which one nurse related to one or two physicians.

The major assumptions underlying the design of this study were threefold: a professional's role is in part determined by educational level, organizational structure and complexity of the work situation; the activities of the professional, in turn, determine much of the productivity of the setting; and the degree of productivity of the setting serves to create more or less organizational demand, not to mention more or less cost to the organization. The circular relationship among these factors is displayed in Figure 1.
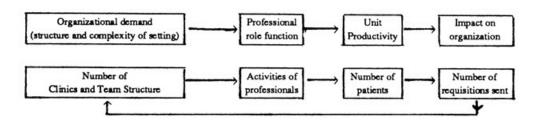
Figure 1
**Circular relationships concerning the situational factors
that influence role enactment**

The above purposes and assumptions guided the following study questions.

(1) Are the activities of RNs and RNAs independent of clinic demand?
(2) In similar demand situations, are the activities of the nurses independent of educational preparation?
(3) Is clinic productivity (number of patients seen) independent of types of nurse activities?
(4) Is the impact on the organization (number of requisitions sent), independent of clinic productivity?
(5) What is the degree of agreement (role clarity) between nurses' and physicians' expectations of the role of the nurse and these same nurses real and ideal role function?

The variables and their measures are summarized in Figure 2.

Constructs	Organizational demand (structure and complexity of setting)	→	Professional role function	→	Unit Pro- ductivity	→	Impact on organization

Variables	Clinic demand ——→ Team structure	→	Activities of professionals	→	Number of patients	→	Number of requisitions sent

Measures	Number of MDs per clinic day	Collaborative MD—RN	RN MD RNA Receptionist (frequency count of activities performed)	Number of patients seen	Number and type of requisition sent

	Number of RNs/ RNAs per clinic day	Co-ordinative MD MD MD→RN MD MD			

Figure 2
Study Variables and their Measures

Method

Research setting

The study setting was a 350 bed urban teaching hospital in which two out-patient specialty clinic areas (A and B) were purposefully selected for this study. Physicians who were internists with specialization in cardiology, diabetes, general medicine and gastroenterology paired with two different types of nurses (RNs and RNAs) worked together in these settings in various combinations during more and less demanding (number of physicians) clinic days. Data gathered from such an actual setting about role function and situational demand was judged to be suitable to answer the study questions.

Study sample and sampling procedures

In clinic Area A, nurses worked with physicians in both a co-ordinative and a collaborative team structure. Some of the same physicians who held clinics in the mornings in Area A and who were part of the high-demand situation, also held an additional clinic on another day and were part of the low-demand situation. These physicians are identified as "same" type. In contrast, in Area B, the physicians who constituted the high-demand situation were different from the physicians who constituted the low-demand situation. These physicians are identified as "different" types.

For sampling purposes, clinic health care teams within the two clinic Areas (A and B) were selected in a manner which controlled for the type of physician ("same", or "different") associated with type of nurse, and for the type of nurse (RN, RNA) working with either type of physician.

Two diploma RNs and two RNAs, each with an average of five years of clinical experience, plus eight specialist physicians in internal medicine, agreed to participate in the study.

The following eight team situations were identified through the sampling procedure.

1) Co-ordinative team, as defined by high organizational demand, were sampled under conditions in which:

    a) i) RNs were working with the same physicians (Area A)
        ii) RNs were working with different physicians (Area B)
    b) i) RNAs were working with the same physicians (Area A)
        ii) RNAs were working with different physicians (Area B)

2) Collaborative Team, as defined by low organizational demand, was sampled under conditions in which:

    a) i) RNs were working with the same physicians (Area A)

        ii) RNs were working with different physicians (Area B)

    b) i) RNAs were working with the same physicians (Area A)

        ii) RNAs were working with different physicians (Area B)

A random schedule of observations was developed to guide trained research assistants' data collection. Three randomly-selected half hour periods, in each clinic, each week, for each team situation, were observed for four weeks. This yielded a sample of thirty-two clinic half days and forty-eight hours of direct observation.

Each research assistant was regularly assigned to the same health care worker for each observation period. At the beginning of the sample time, the raters synchronized their stop watches in order to have simultaneous observations of the various members of the team. Using the stopwatch as the guide, the activities of each of three or four health care workers, depending on the clinic, were rated each minute. This rating generated one-minute counts of professional activities, which were subsequently summed and averaged for each health care worker.

The rater assigned to the receptionist also tallied the number of patients scheduled for the clinic day as well as the number of requisitions completed during the sample time. The observed professionals exercised their discretion in allowing the raters into the examining room during the observation period.

Following the four week observation period, each health care worker was requested to complete the activity rating form and to indicate what activities were most appropriate (ideal role function) for what health care worker in the clinic. These ratings were compared to the observed (real) activities.

Instrument

For purposes of this study, the observation activity form was designed by the investigators from direct observation in the clinics. Random one-hour periods of time were sampled during which every discrete activity was recorded. Following the sampling period, the activities were summarized into the following categories.

Discrete Categories	Broad Categories
Clerical (includes scheduling appointments and paperwork associated with tests and procedures) Recording (includes dictating and writing notes, reports and mail) Teaching (includes teaching students or other health professionals)	Professional Collateral
History taking (includes interviewing patients re problems) Examination (includes physical, taking specimens) Treatment (includes procedures and assisting and preparing for same)	Patient Centered
Scheduling (includes telephone calls and moving patient from waiting room to office) Information Exchange (includes getting and giving general information directly to MD, patient, family, other team members, or indirectly [phone, records])	Co-ordinative Clerical
Housekeeping (includes cleaning equipment, getting laundry or supplies)	Housekeeping
Errands/Personal/Team Exchange (includes going out of department, socializing, miscellaneous)	Personal/Errands

Figure 4
Categories for observation of activities

The developing instrument was tested in the same clinics for the mutual exclusiveness and exhaustiveness of categories. The investigators achieved 100% agreement in classifying the activities in the above discrete categories, and 98% agreement in an item-by-item comparison within each discrete category. Research assistants were then trained in observation by the investigators. One investigator served as the standard to test the inter-rater agreement of the research assistants in classifying activities. The percent of agreement ranged between 90 and 95% with a Kappa of .86. This was judged to be acceptable for study purposes.

Results

For purpose of analysis, the eight team "types" were collapsed to four team "types"; they included co-ordinative (high demand) and collaborative (low demand) team structures with two nurse types (RN and RNA). Because of the small sample size, no attempt was made to determine the effect of "the same" or "different" physician variable.

The proportion of time spent by the RN and RNA in the various categories of activities was derived from the total minutes of time spent by all team members. The following results are primarily a report of nurse activities in each category under the different demand conditions. Chi-square analysis was used to compare the frequency of activities between the RN and RNA subjects, under the different team structures.

RN team in high- and low-demand situations
(Co-ordinative vs Collaborative Team Structure)

There was a significant difference (x^2 = 152.88, df = 11, p < .001) in the proportion of time spent in the various categories of activities (discrete categories) of the same RNs in the same setting between high- and low-demand conditions. The results are shown in Table 3.

Table 3

Proportion of Time Spent by the Same RNs in High- and Low-demand Situations

Category	High (%)	Low (%)
History Taking	2	6
Examining	3	9
Treating	6	12
Scheduling	13	8
Information Exchange	26	30
Clerical	18	16
Recording	6	10
Teaching	.2	.1
Housekeeping	.2	0
Errands/Personal	9	5
Team Exchange	18	4
	100	100

x^2_{11} = 152.88, p<.001

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In the co-ordinative team structure or high-demand situation determined by the number of physicians seeing patients, the RN spent a greater proportion of time "scheduling" (12.5%), "clerical" (18%), "going out of the department on errands" (9%) and "team interaction" (18%). In contrast, in the collaborative team structure or conditions of low organizational demand, these same nurses spent a greater proportion of their total time "taking patient's history" (6%), "giving information" (13%), "examining" (9%), "treating" (12%) and "recording" (10%). In addition, it appears that when these nurses *increased* their "examining" and "recording" activities under conditions of low organizational demand, the same physicians *reduced* their activity in these areas. On the whole, on RN teams, receptionists moderately increased their "scheduling" and "information exchange" activities under conditions of high organizational demand, but there was little difference in their roles under the two demand circumstances and two team structures.

RNA team in high- and low-demand situations
(Co-ordinative vs Collaborative Team Structures

There was a significant difference (x^2 = 197.29, df = 11, p < .001) in the proportion of time spent in the various categories of activities of the same RNAs in the same setting between high- and low-demand conditions. The results are shown in Table 4.

Table 4

Proportion of Time Spent by the Same RNAs in High- and Low-demand Situations

	Category	High (%)	Low (%)
	History Taking	0	4.5
	Examining	.1	3.5
	Treating	13.5	5.5
	Scheduling	14	15
	Information Exchange	13	19
	Clerical	10	18.5
	Recording	5	10
4mand,	Teaching	0	3
	Housekeeping	0	1.2
	Errands/Personal	20	7
	Team Exchange	24	13
		100	100

x^2_{11} = 197.29, p<.001

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Under conditions of high organizational demand (co-ordinative team structure), the RNA spent a greater proportion of time "assisting with treatments" (13.5%), "errands" (20%) and "team interaction" (24%). In contrast, under conditions of low organizational demand (collaborative team structure), these same RNAs expanded the proportion of time spent in "history taking" (4.5%), "information exchange" (19%), "examining" (3.5%), "clerical" (18.5%) and "recording functions"(10%).

As with the RN teams, under conditions of low organizational demand, when the RNA expanded the "examining" and "information giving" functions, these functions were proportionally reduced by the physicians. In addition, similar to the RN teams, the receptionist moderately increased the "giving information", "scheduling" and "clerical function" activities under high organizational demand conditions, but there was little difference in role activities under the two team structures.

RN and RNA teams compared in high-demand situation
(Co-ordinative Team Structure)

There was a significant overall difference (x^2 = 137.10, df = 11, p < .001) between the RN and RNA in the proportion of time spent in the various activities performed under similar high-demand conditions (co-ordinative team structure). The RN spent a greater proportion of time "taking histories" (2% vs 0%), "information exchange" (26% vs 13%), "examining" (3% vs 0%) and "clerical work" (18% vs 10%). In contrast, the RNA spent a greater proportion of time "assisting with treatments" (13.5% vs 6%), "errands" (20% vs 9%) and "team interaction" (24% vs 18%). Receptionist activity on the two types of teams appears similar; no pattern in physicians' activities can be detected. Although the physicians working with the RN and RNA teams are different, the number and type of physicians are similar between groups.

RN and RNA teams compared in low-demand situations
(Collaborative Team Structure)

There was a significant overall difference (x^2 = 136.52, df = 11, p < .0001) between the RN and RNA teams in the various activities performed under similar low-demand conditions (collaborative team structure). RNs spent proportionally more time than RNAs in "history taking" (6% vs 4.5%), "information exchange" (30% vs 19%), "examining" (9% vs 3%) and "treating" (12% vs 6%). RNAs on the other hand spent a greater proportion of time "maintaining the schedule" (15% vs 8%), "clerical" (19% vs 16%), "teaching" (3% vs 0%) and "errands/team interaction" (21% vs 9%).

Summary of RN and RNA teams frequency of activities

The eleven categories of activities of RNs and RNAs were summarized into five broader categories to facilitate discussion and description. The categories were: patient centered activities; professional collateral activities; clerical co-ordinative activities; housekeeping; and personal/errand activities. In general, the RN and RNA increased professional collateral (clerical, recording, teaching) activities under conditions of low organizational demand (collaborative team structure). In addition, whereas the RN increased patient-centered activities (history taking, examination and treatment), the RNA increased co-ordinative clerical activities (scheduling, getting information, giving information) under this same low-demand situation. In high-demand situations, i.e. co-ordinative team structure (more physicians holding clinics simultaneously), both the RN and RNA increased their errand and team interaction activities with that of the RNA being close to two thirds more than that of the RN (44% vs 27%). The results are shown in Table 5.

Table 5
Minutes of Time Spent by RNs and RNAs in Clinic Activities in High- and Low-demand Situations

Demand	Role	Professional (Indirect Patient Care)	Direct Patient Care	Clerical	Housekeeping	Errands or Personal
High	RN	171	69	268	2	184
	RNA	107	94	186	0	303
Low	RN	182	193	265	0	61
	RNA	206	89	221	8	135

High RN vs Low RN x^2_4 = 122.77, p < .000...
High RNA vs Low RNA $x^2_4 24$ = 106.24, p < .000...

Clinic Efficiency (number of patients treated)
and Organizational Impact (number of requisitions sent)

There was no significant difference ($x^2 = 1.457$, df = 1, p > .05) in the number of patients seen under the two organizational conditions by RN and RNA teams. This lack of difference in the number of patients seen in high- and low-demand situations is similar to the lack of difference in the number of requisitions sent under the same conditions.

Expected/observed role comparisons

Two RNs, two RNAs and eight MDs completed the activity sheet rating which health professional each expected to perform the various indicated activities.

There was a general consensus between the two RNs that their expectation was to be involved in all the activities composing the eleven categories, with the exception of arranging hospital admissions, sorting mail, and billing. In addition, they were in agreement as to what activities they thought appropriate for the RNAs, MDs and receptionists. Both RNs agreed that history taking, recording orders and medications were inappropriate for RNAs but they disagreed that information exchange was a part of the RNA role. They agreed that maintaining supplies was appropriate for the RNA role.

The two RNAs, on the other hand, were divided in their expectations of both the RN and RNA. One RNA expected that both the RN and RNA should be involved in all categories of activities with one exception: medications, IVs and teaching nursing students, were considered appropriate for the RN, whereas housekeeping activities were appropriate for the RNA. The other RNA saw the categories of activities predominantly within the RNA role, other than some collateral clerical work, teaching students and IV management.

Interestingly enough, the physicians generally expected the RN to be involved primarily in teaching students and in the assisting activities (information exchange, assisting in physical patient care). In contrast, the physicians expected the RNA to be involved in housekeeping, scheduling, clerical and assisting with physical patient care. On the whole, however, physicians appeared to expect a greater variety of functions from the RNA than RN.

The discrepancy between these "ideal" role expectations and observed (real) role performance is interesting to note, in light of the literature on role function studies. The comparison between "real" (actually observed) and "ideal" is rarely done in other studies of role performance. Traditionally role studies are done using self-reports of what the professionals "think" they do or descriptions of what they expect or would like to do. While a comparison of the reliability of self-report versus direct-observation methods is beyond the scope of this study, the disagreement about role definition is congruent with other role function studies (Habeeb & McLaughlin, 1977). The effect of these differences on morale and work satisfaction remains a question.

Discussion and Conclusions

This study of role performance of health team members in two specialty outpatient clinics has demonstrated that some differences in role enactment and role emphasis occurred on the part of physicians, nurses and receptionists, under differing amounts of organizational demand and different organizational structure.

Under conditions of high organizational demand (co-ordinative team structure), both types of nurses became involved in clinic maintenance activities as the physicians were attending to the patients. When the number of physicians was reduced (collaborative team structure) but the number of patients did not differ, the RNs expanded into direct patient-care functions, while the physicians reduced their activity in this area and the RNAs increased their co-ordinative clerical activities. Receptionist activity appeared constant across organizational demand conditions and various team compositions.

In this study setting, in response to differing practice conditions, the RN and the MD appear to exhibit the most flexibility in role function with an apparent ability to respond to the different demands and expectations of the situation. While the RNAs did respond to differing organizational conditions and team structure with increased clinic maintenance activities, their direct patient-care activities did not change. The number of patients treated by the two different types of teams (RN and RNA), did not differ significantly under the two organizational conditions and two team arrangements. It may be that the greater number of physicians did not increase their number of patients because of their educational responsibilities to residents, and, that the similar number of patients seen by fewer physicians might have been possible because of the different responsibilities assumed by the nurses.

In summary, this study has demonstrated the influence that situational demand and organizational arrangement played on the role performance of team members in one study setting. Caution in generalizing these findings to other similar study settings should be applied because of the selected and small sample size. Respondents represented professionals in clinics in a tertiary care setting within one geographic segment of a national health care system. Findings may not be applicable to other geographic segments within the same systems. Within study limitations the implications for administrative practices should be noted. Increased attention may be paid to matching the role to the task and organizational arrangement. It was the RN who assumed more clerical functions under conditions of high organizational demand (co-ordinative team). Under reverse conditions, and different from the RNAs, RNs were able to assume more direct patient-care activities. When the task of outpatient clinic care can predictably escalate, it may be more appropriate to have clerical staff to free the RNs from these functions in order that their talents may be used, and system productivity realized. Alternate settings may be more appropriate to the talents and productivity of the RNA.

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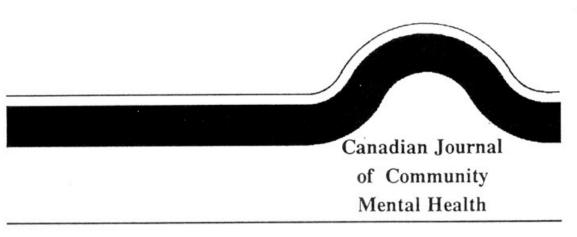
RÉSUMÉ

Une étude de la performance professionnelle
dans les consultations spécialisées externes

Cette étude approfondit les différences observées au niveau de la performance professionnelle des membres de l'équipe de deux consultations spécialisées externes d'un hôpital d'enseignement en milieu urbain. A dessein, on a identifié et choisi différentes équipes de professionnels dans le but de tenir compte du type de médecin appelé à oeuvrer avec deux catégories d'infirmier les jours où la consultation était très fréquentée et les jours où elle l'était peu. Deux adjoints de recherche formés à cette fin suivaient un calendrier d'observations établi au hasard pour évaluer simultanément les couples infirmier-médecin tout au long d'une période d'observation de quatre semaines.

Les résultats de l'étude indiquent que les activités professionnelles des deux différents types d'infirmier (infirmier autorisé et infirmier auxiliaire autorisé) étaient fonction à la fois des exigences de la consultation et de la formation des intéressés. Aux heures où la consultation était très fréquentée, les infirmiers et les infirmiers auxiliaires passaient davantage de temps à assurer le bon roulement de la consultation alors qu'aux heures plus calmes ils consacraient plus de temps aux malades. Abstraction faite des exigences administratives, l'infirmier passait plus de temps auprès des malades que l'infirmier auxiliaire. Cette différence était encore plus manifeste aux heures calmes de la consultation. En outre, les différentes activités des infirmiers prévues selon les différentes conditions n'étaient pas associées aux mesures d'unité de productivité telles que nombre de patients vus en consultation ou nombre de demandes de consultation reçues.

Pour être efficace, la dotation en personnel des consultations spécialisées externes doit tenir compte de l'adaptabilité apparente de l'infirmier autorisé aux exigences de différentes circonstances comme en témoigne sa performance professionnelle.

The **Canadian Journal of Community Mental Health** publishes articles concerning the promotion of positive mental health, and the prevention and treatment of mental health problems in community settings. Priority interest areas are program evaluation, community needs assessment, community development, social action, self-help, community education, consultation, and advocacy. A special theme issue is published each year. Recent theme issues include **Women and Mental Health** and **Community Mental Health Services for the Chronically Mentally Disabled**. CJCMH also features reviews of relevant books.

Recent Articles Include

- Family Politics, Family Policy, and Family Practice: A Feminist Perspective. *Kathryn McCannell*

- The Making of Mental Health Policy: The 1980's and the Challenge of Sanity in Quebec and Ontario. *Françoise Boudreau*

- Housing for the Chronically Mentally Disabled: Conceptual Framework and Social Context. *G. Brent Hall, Geoffrey Nelson, and Heather Fowler Smith*

Directions in Nursing Research:
Ten Years of Progress at London University, Volume 7
Edited by J. Wilson Barnett and S. Robinson, Scutari Press, London, 1989,
302 pp., Price 17.50, ISBN 1)871364)21)3.

This is the seventh volume in a series entitled "Developments in Nursing Research." The editors are J. Wilson Barnett and S. Robinson, with 35 authors for 29 chapters. A six-page index is included. The format consists of four major sections entitled "The delivery of care: Present practice and future directions (nine chapters), "The consumer perspective: Patients' and relatives' experiences and opinions" (five chapters), "Preparation for practice: Aspects of basic and post-basic education" (11 chapters) and "Career paths of nurses and midwives" (three chapters).

Each chapter is basically a presentation of one research study. The chapters and articles are average in length (approximately nine pages). Most present previously published data and a few derive from unpublished theses. The range of topics covered is impressive, if not a little overwhelming. I think an abstract or summary with each article would have made the reading easier.

The stated dual purpose was first, to produce a comprehensive record of an ongoing program of research at King's College, London University. The second aim was to construct a collection of studies that will be of interest to nurses, midwives and health visitors who work in practice, education and in management, as well as other health)care professionals and health)care researchers. The series purpose is to review research in specialist areas of nursing and to form a scholarly contribution to the literature.

This book does meet all of the intended purposes. In particular it provides as excellent view of the extensive work done at King's College over the last decade. This book is of interest from the historical point of view and the extensive bibliographies may be of use to some clinicians, educators and researchers.

C.M. Smith-Hanrahan, N., Ph.D.

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INFORMATION FOR AUTHORS

The Canadian Journal of Nursing Research welcomes research and scholarly manuscripts of relevance to nursing and health care. Please send manuscripts to The Editor, *The Canadian Journal of Nursing Research*, School of Nursing, McGill University, 3506 University Street, Montreal, QC, H3A 2A7, Canada.

Procedure: Please submit three double-spaced copies of the manuscript on 216mm x 279mm paper, using generous margins. Include a covering letter giving the name, address, present affiliation of the author(s). It is understood that articles submitted for consideration have not been simultaneously submitted to any other publication. Please include with your article a statement of ownership and assignment of copyright in the form as follows: "I hereby declare that I am the sole proprietor of all rights to my original article entitled ' ' and that I assign all rights to copyright to the School of Nursing, McGill University, for publication in *The Canadian Journal of Nursing Research/La revue canadienne de recherche en sciences infirmières*. Date _____, Signature _____."

Style and Format: Acceptable length of a manuscript is between 10 and 15 pages. The article may be written in English or French, and must be accompanied by a 100-200 word abstract (if possible, in the other language). Please submit original diagrams, drawn in India ink and camera-ready. Prospective authors are asked to place references to their own work on a separate sheet and to follow the style and content requirements detailed in the Publication Manual of the American Psychological Association (3rd. ed.), Washington, DC: APA, 1983.

Manuscript Review: Manuscripts submitted to the journal are assessed anonymously by two members of a Review Board, using the following criteria:

Assessing content

Internal validity - relatedness: Is the problem the paper deals with identified? Is the design of the research or the structure of the essay appropriate to the question asked? Are the statistical, research and logical methods appropriate? Can the findings be justified by the data presented? Are the implications based on the findings?

External validity - relevance, accountability: Is the question worth asking? Is the problem of concern? Are there problems of confidentiality or ethics? Are the findings of the research or the conclusions of the essay significant? Can the findings or the conclusions be applied in other situations? Does the article contribute to knowledge in nursing? In what way?

Assessing presentation

Are the ideas developed logically? Are they expressed clearly? Is the length appropriate to the subject? Does the number of references or tables exceed what is needed?

Publication Information: On receipt of the original manuscript, the author is advised that the editorial board's response will be forwarded within ten weeks. When a manuscript is returned to the author for revision, three copies of the revised manuscript (dated and marked 'revised') should be returned to the editor within four weeks. The complete procedure of review, revision, copy editing, typesetting, proofreading and printing may result in a six to eight month lapse between submission and publication.

RENSEIGNEMENTS A L'INTENTION DES AUTEURS

La revue canadienne de recherche en sciences infirmières accueille avec plaisir des articles de recherche ayant trait aux sciences infirmières et aux soins de la santé. Veuillez adresser vos manuscrits à la rédactrice en chef, *La revue canadienne de recherche en sciences infirmières*, Ecole des sciences infirmières, Université McGill, 3506 rue University, Montréal, QC, H3A 2A7.

Modalités: Veuillez envoyer trois exemplaires de votre article dactylographié à double interligne sur des feuilles de papier de 216mm x 279mm en respectant des marges généreuses, accompagné d'une lettre qui indiquera le nom, l'adresse et l'affiliation de l'auteur ou des auteurs. Il est entendu que les articles soumis n'ont pas été simultanément présentés à d'autres revues. Veuillez inclure avec votre article une déclaration de propriété et de cession de droit d'auteur conformément à la formule suivante: "Je déclare par la présente que je suis le seul propriétaire de tous droits relatifs à mon article intitulé ' ' et je cède mon droit d'auteur à l'École des sciences infirmières de l'Université McGill, pour fins de publication dans *The Canadian Journal of Nursing Research/La revue canadienne de recherche en sciences infirmières*. Date _____, Signature _____."

Style de présentation: La longueur acceptable d'un article doit osciller entre 10 et 15 pages. Les articles peuvent être rédigés soit en anglais, soit en français et ils doivent être accompagnés d'un résumé de 100 à 200 mots (si possible, dans l'autre langue). Veuillez remettre l'original des schémas, dessinés à l'encre de Chine et prêts à être photographiés. Les auteurs sont tenus de fournir les références à leurs propres oeuvres sur une feuille séparée et de suivre les consignes énoncées dans le *Publication Manual of the American Psychological Association* (3rd. ed.), Washington, D.C.: APA, 1983, en ce qui concerne le style et le contenu de leurs articles.

Examen des manuscrits: Les manuscrits présentés à la revue sont évalués de façon anonyme par deux lectrices selon les critères suivants:

Evaluation du fond
Validité interne: Le problème dont traite l'article est-il clairement défini? La forme des recherches ou la structure de l'essai sont-elles appropriées à la question soulevée? les méthodes statistiques, logiques et les modalités de recherche sont-elles appropriées? Les conclusions peuvent-elles être justifiées à l'aide des données présentées? Les implications de l'article sont-elles fondées sur les conclusions?
Validité externe: Le problème soulevé présente-t-il un intérêt véritable? Ce problème est-il d'actualité? Existe-t-il des problèmes de divulgation ou de déontologie? Les conclusions de la recherche ou de l'article sont-elles importantes? Ces conclusions ou résultats peuvent-ils s'appliquer à d'autres situations? Est- ce que l'article contribue à l'avancement du savoir dans le domaine des sciences infirmières? De quelle façon?

Evaluation de la présentation
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Renseignements relatifs à la publication: A la réception du manuscrit original, l'auteur est avisé que le Comité de rédaction prendra une décision au sujet de la publication de son article dans les dix semaines. Lorsqu'un manuscrit est renvoyé à son auteur pour qu'il le remanie, trois exemplaires dudit manuscrit remanié (daté et portant l'inscription "revu et corrigé") doivent être renvoyés à la rédactrice en chef dans les quatre semaines. Les modalités complètes de lecture, de remaniement, d'édition, de composition et d'imprimerie expliquent qu'il s'écoule souvent de six à huit mois avant qu'un article soit publié.

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