



Alberta Association of
Registered Nurses



Joint Submission to the Auditor General of Alberta

As input to the Office of the Auditor General's Seniors' Care Audit

Alberta Association of Registered Nurses

and

Alberta Gerontological Nurses Association

June, 2004

INTRODUCTION

The Alberta Association of Registered Nurses (AARN) is the professional and regulatory body for registered nurses in Alberta. Its mandate is to protect the public through ensuring safe, competent registered nurse practice. Of the current 26,604 AARN members, 8.2% report on their RN license renewal that they are employed in long-term care (LTC) settings.

The Alberta Gerontological Nurses Association (AGNA) is an AARN-recognized Specialty Practice Group that brings together registered nurses (RNs) who are interested in gerontology and geriatrics, and whose intent is to improve the health, wellness and quality of life of older adults.

Both nursing organizations share the Alberta vision for aging in the 21st century, as published in the November 1999 Report of the Long-term Care Review Policy Advisory Committee (Alberta Health & Wellness, 1999). This is a vision in which all Albertans:

- are treated with respect and dignity
- have access to information which allows them to make responsible choices regarding their health and well-being
- can achieve quality living, supported by relatives, friends and community networks and by responsible services and settings

PURPOSE OF THIS SUBMISSION

Our understanding of the scope of the Seniors' Care Audit is that it will determine whether the Ministries of Alberta Health and Wellness and Alberta Seniors have information and accountability systems in place to fulfill their responsibilities to seniors' care in Alberta.

The Alberta Gerontological Nurses Association and the Alberta Association of Registered Nurses support the current audit, in the interest of protecting residents and families in long-term care (LTC) and promoting their optimal function and quality of life. This document summarizes some of the issues in LTC and the research about factors related to quality outcomes, particularly focusing on staffing. Residential LTC is emphasized within this submission, because the issues in these settings have been frequently documented in the nursing literature. However, we recognize and are fully supportive of a broad definition of quality continuing care for seniors across all care settings, including home care, assisted living, residential LTC, ambulatory care and hospital-based acute care, and we believe that registered nurses have a crucial role to play in maintaining the health of seniors in each of these settings.

As enclosures to this submission, we have provided five AARN documents that the Auditor General may find to be of assistance in his review. These are:

- Alberta Association of Registered Nurses, College of Licensed Practical Nurses of Alberta, Registered Psychiatric Nurses Association of Alberta: *Collaborative Nursing Practice in Alberta* (June 2003)
- College and Association of Registered Nurses of Alberta (currently AARN), College of Registered Psychiatric Nurses of Alberta, College of Licensed Practical Nurses of Alberta: *Decision-Making Standards for Supervision of Health Care Aides: Restricted Activities & Activities of Daily Living* (May 2003)
- Alberta Association of Registered Nurses: *Position Statement on Continuity of Care* (May 2003)
- Alberta Association of Registered Nurses: *Guidelines for Assignment of Patient/Client Care & Staffing Decisions* (May 2003)
- Alberta Association of Registered Nurses: *Best Practice Guidelines: Research-Based Staffing for the Delivery of Nursing Care* (June 2002)

OVERVIEW OF TRENDS AND ISSUES IN LONG-TERM CARE

Long-term care covers a wide range of services, not only for the elderly but also for people of all ages with chronic conditions and functional limitations. It is anticipated that, with the increasing number of seniors in our population, long-term care services will become more in demand in future years.

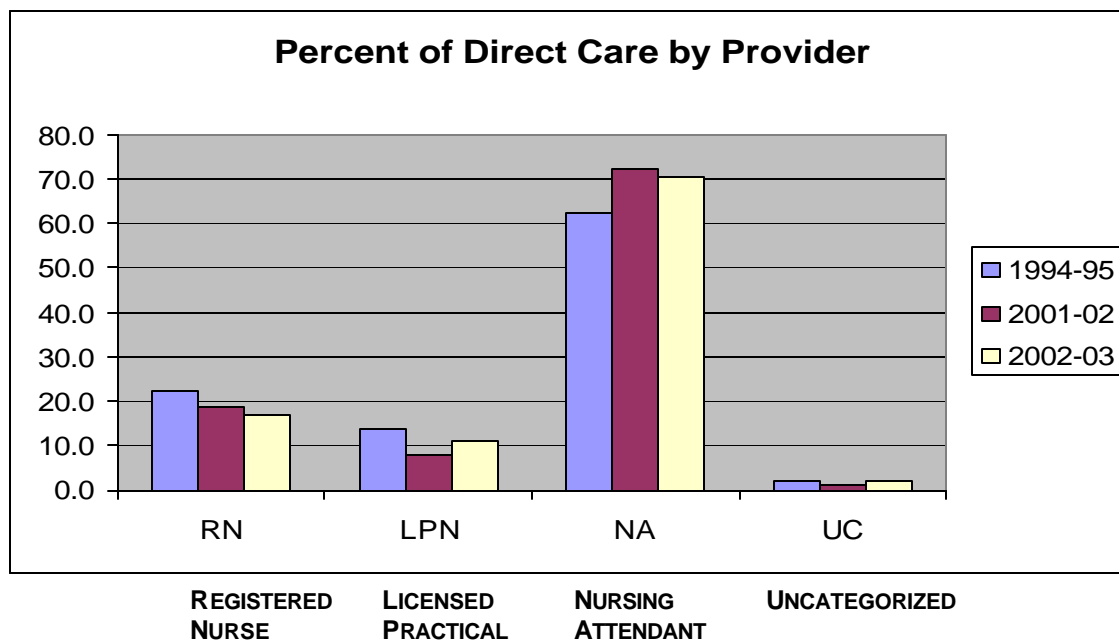
Since the early 1990s, the health care system across Canada has been characterized by increasing pressures of resource limitations, the pervasiveness and depth of cost-cutting measures, and reductions of staff and supporting services in most care settings, all of which have resulted in profound stress on health care providers and negative effects on the quality of the care they are able to provide to their clients.

Long-term care has been no exception. Factors such as ongoing shortfalls in global budgets at the Regional Health Authority (RHA) level, increasing complexity of LTC clients, and inadequate validity and standardization of resident classification systems have contributed to LTC facility budgets that are often insufficient to fund the care requirements of clients. This situation has been exacerbated by the fact that accommodation charges have not kept pace with the increases in related costs, leading to facilities subsidizing accommodation expenditures with funds intended for direct care provision.

Since staff salaries make up the bulk of expenditure for direct care, the most common result of these funding issues has been reduced staffing levels and staff mix, at the same time as the acuity/complexity of clients being served by LTC facilities has increased. This has made it increasingly difficult for staff to provide the quality client care and supervision that is needed to ensure appropriate client outcomes. Data from Alberta LTC facilities between 1988 and 1999 demonstrate increased age of clients, and increased average client acuity level from category C to E between 1988 and 1999 (Wilson & Truman, 2002).

Staffing trends in Alberta's LTC facilities over a similar time period are illustrated in Figure 1, which is derived from data provided by the Alberta Long Term Care Association, for the years 1994/95 through 2002/03. With the exception of a slight increase in the LPN numbers in 2002/03, these data show a significant decrease in the professional staffing component and increasing reliance on unregulated workers in LTC. It is reasonable to seriously question the increased reliance on unregulated workers as providers of more than 70% of the direct care seniors are receiving in these facilities, during a time when more seniors' care is moving to homes and assisted living settings. As seniors with less complex care needs are, quite appropriately, being maintained in community settings, the resulting effects on residential LTC settings is that their client populations are ever-more complex and challenging in terms of nursing care needs. An *increase* in the proportion of care provision by regulated nursing professionals may be justified in order to ensure safe care for this population, rather than the decrease that we have seen.

Figure 1.



REQUIREMENTS FOR QUALITY CARE

Over the past decade, a growing body of research and debate has focused attention on key factors in work settings that positively or negatively influence the ability of nurses to provide quality care. Recent nursing research findings consistently show a positive correlation between the development of quality practice environments, including adequate staffing, and measurable improvements in client outcomes (Aiken et al, 2002; Aiken et al, 2001; Baumann et al, 2001; Clarke et al, 2001; Estabrooks et al, 2002; Kovner & Gergen, 1998; Needleman et al, 2002; Tourangeau et al, 2002).

From the perspective of registered nurses providing or supporting nursing care in any practice setting, there are key factors or attributes in the practice environment that can enable or impede their ability to meet their client/patients' needs safely, competently and ethically. These attributes are: care delivery processes, workload management, organizational supports, leadership, professional development and communication systems.

Quality practice environments result in:

- improved health and well-being of care providers
- higher job satisfaction
- lower absenteeism and turnover
- improved job performance
- lower accident rates
- reduced health benefit and worker compensation costs
- better patient outcomes
- ultimately, lower costs of care

THE IMPORTANCE OF STAFF MIX AND SCOPES OF PRACTICE

Staff mix can be defined as the proportions of various categories of care providers that make up the total staffing complement in a facility or unit. Along with overall staffing levels, it is an important predictor of quality client care and outcomes.

All practice environments are accountable for the wise and prudent use of resources (material, financial and human) and for facilitating the use of health care providers to their full scopes of practice, by looking at how they can provide care using different service delivery models. The health care needs of individuals requiring long-term care services range from assistance with basic activities of everyday life to the provision of complex total care. A variety of care providers with varying levels of knowledge and expertise are responsible for meeting these health care needs, and the outcomes of care depend largely on the performance of the health care provider.

Health care providers in long-term care facilities include regulated members of health professions as well as unregulated workers. Regulated nursing staff includes registered nurses (RN), registered psychiatric nurses (RPN) and licensed practical nurses (LPN). Unregulated workers are known by various titles as determined by their employers, including: personal care aides, nursing assistants or attendants, or auxiliary health care workers. Alberta Health and Wellness is presently considering the adoption of "health care aides" as the common term to identify unregulated health care providers.

The scope of practice of registered nurses emphasizes that nursing practice is more than just a list of skills or interventions that are performed, but that registered nurses are responsible for completing a comprehensive assessment of the health care needs of clients, in order to make a nursing diagnosis, develop a plan of care, implement nursing care and evaluate the care provided. Registered nurses are responsible for ongoing monitoring and surveillance of a patient's condition to maximize optimal health

outcomes, detect any problems, and prevent adverse events which may compromise client safety. Nursing practice is the application of knowledge, skills, judgment, behaviors and attitudes and cannot be simply reduced to a list of tasks.

The knowledge and judgment components of client care are just as important as the technical aspects. In stable environments and when working with residents whose health needs are both stable and predictable, LPNs may practice autonomously. However, the RN or RPN provides care to people in all stages of health and complexities of illness, and in unpredictable or emergent situations. In the enclosed document, *Collaborative Nursing Practice in Alberta* (2003), the factors described under LPN practice specify when LPNs can practice autonomously, while the factors described for RNs/RPNs describe situations in which an RN or RPN should be involved and/or directly responsible for the provision of nursing care.

Employers determine who they hire as health care aides and what competencies they require. Various educational programs exist in the province for preparation of workers to provide assistance with personal care, including on the job training. In 2002, Alberta Health and Wellness issued the Continuing Care Support Workers Profile, which identifies competencies that should be met by health care aides in health care settings. These competencies have been developed to enable the framing of training modules applicable to preparation of health care aides for various settings, and to serve as guides for educational institutions developing courses. Although unregulated workers have an important role to play in LTC, maintaining an adequate presence of regulated nursing staff is essential for providing quality care to a client population increasing in acuity levels.

In a long-term care setting, under the overall on-site supervision of a nurse, health care aides provide care to groups of residents and may be assigned to an individual client's care. The supervising nurse retains responsibility for assigning client care appropriately to the team members, and for ongoing evaluation of nursing care; the health care aide is then responsible for the assigned tasks and the care they provide. In the enclosed document, *Decision-Making Standards for Supervision of Health Care Aides: Restricted Activities & Activities of Daily Living* (2003), direction for nursing practice, including decision-making guidance for RNs, RPNs and LPNs who work in settings where unregulated health care workers are employed is outlined.

Studies have repeatedly shown that higher levels of RN staffing are associated with better client outcomes, including lower mortality rates. Not only should we maintain or increase levels of professional staffing, we should be looking ahead to educate nurse practitioners who can assist with complex client care and also intervene when needed using their specialized knowledge and assessment skills to investigate and treat exacerbation of chronic conditions.

PRINCIPLES FOR STAFF MIX DECISIONS

Staffing decisions should be research-based and the focus of care must be on:

- the overall complexity and health care needs of clients, and not on who can perform which tasks,
- what is most appropriate rather than merely what is allowed,
- the outcome of care for the client, i.e., the outcome should be the same regardless of who provides the care, and
- available supports and the care delivery model in the practice setting.

While regional health authorities, administrators and practitioners face staffing challenges, there must be adequate staffing to care for the residents. Recognizing that staffing is the major expense in operating a long-term care facility, the use of best practices to determine, implement and evaluate nursing staff mix, staffing patterns and models for delivery of care will benefit the facility over time by fostering a positive work environment that will improve quality of care and ultimately be more cost effective.

WHAT DOES RESEARCH TELL US ABOUT NURSE STAFFING AND THE OUTCOMES OF CARE?

A literature search using the key words “Nursing Home Staffing” generated several recent articles related to staffing and client outcomes in LTC. Literature from the United States was heavily represented. Appendix A provides an annotated bibliography of articles reviewed.

From this review of the literature, important conclusions can be drawn. It is clear that staffing (mix, levels, process) is linked with quality outcomes and there is not one set ratio of RNs to LPNS or other health care workers for all practice environments (Alberta Heritage Foundation for Medical Research, 2001). The organizational environment of the LTC setting is essential to establishing support for quality care (Rantz, et al 2004). Consistent administration and consistent resident assignments support quality care (Rantz et al 2004, Bowers et al 2001). Lack of turnover and high job satisfaction are associated with quality care. Quality outcomes may cost less as residents are less dependent (Rantz et al 2004, Mukamel & Spector, 2000). These findings are consistent across studies.

Now is the time for policy to follow the evidence. Jurisdictions around the world are establishing guidelines for appropriate staffing levels in LTC. The research and expert opinion to date suggests that total staffing hours per resident day in the neighborhood of three are minimal and above four is optimal (Harrington et al 2000, Schnelle, et al 2004). Of this, 1.3 hours per resident day of licensed nursing care (RN/LPN) is considered minimum. LTC centers with this level of staffing have fewer adverse events, fewer complaints and improved functional outcomes, as well as reduced mortality (Cohen & Spector, 1996, Schnelle, et al 2004, Bliesmer et al 1998).

Unfortunately, society and governments sometimes appear not to place a high value on the work of caring for the most vulnerable members of our society including the frail elderly. Frontline unregulated health care aides are among the lowest paid employees in society. They often must take more than one job to survive. When economies are strong,

these workers become harder and harder to recruit (Stone, 2001). Albertans must show that they value the work of caregiving by compensating these workers and providing organizational environments where they can establish trusting and respectful relationships with our seniors. We need standardized high quality education to train these workers. California currently requires 160 hours of standardized training within four months of employment for all unlicensed workers (Harrington, et al 2000). Studies have shown that the highest quality care can cost less if client functional ability is preserved.

A RESEARCH-BASED FRAMEWORK FOR STAFFING DECISIONS

A framework of key questions based on current research should support staffing decisions in the long-term care practice setting. The AARN *Best Practice Guidelines: Research-Based Staffing for the Delivery of Nursing Care* (2002) outlines questions for best staffing practices that can be used in making sound staffing decisions in long-term care facilities:

- What are the client's needs for care, the relative acuity, risks and vulnerabilities of the clients and what health outcomes are to be achieved?
- What indicators are used to track health outcomes, and what progress has been made towards the target outcomes?
- What are the available resources, including: the preparation, competencies, supervisory requirements and legislated scopes of practice of nursing staff, and the environmental supports and systems that affect the delivery of care?
- What are the legislated and organizational parameters for the safety, well-being and fitness to practice for the staff, and how are these parameters monitored on a regular and consistent basis?
- What clinical research specific to staffing and client outcomes in LTC is available to help design the delivery model that works best for patients, staff, and resources?
- What checks and balances and quality assurance processes are in place to identify, report and manage the risks for patients and staff?
- What clinical indicators will be regularly monitored to assess the outcomes of care, so that evaluation of the effectiveness of staffing choices occurs?

CONCLUSIONS AND RECOMMENDATIONS

Based on our experience and understanding of the current situation in Alberta's long-term care system, as well as on the literature we have reviewed, it is clear to the AARN and AGNA that there are funding, staffing and quality of care issues needing urgent attention. In the interest of providing Alberta's seniors with the level and quality of care they need and deserve, we urge the Auditor General of Alberta to consider putting forward to government the following recommendations:

- Fully fund achievement of the nine strategic directions outlined in the report *Strategic Directions and Future Actions: Healthy Aging and Continuing Care in Alberta* (Alberta Health & Wellness, 2000).

- Fund appropriate staffing levels, staff mix, and staff qualifications to ensure the provision of high quality care for all residents of long-term care facilities, including:
 - Ensuring the ongoing presence of registered nurses in all long-term care facilities, 24 hours a day, seven days a week.
 - Ensuring consistent educational standards for unregulated workers in long-term care, and requiring that employers hire only workers who meet these standards.
 - Supporting ongoing research to examine staffing patterns, quality and effectiveness of care provided, and client outcomes.

REFERENCES

- Aiken, L.H., Clarke, S.P., Sloane, D.M., Sochalski, J.A., & Siber, J.H. (2002). Hospital nurse staffing and patient mortality, nurse burnout, and job dissatisfaction. *Journal of the American Medical Association*, 288, 1987-1993.
- Aiken, L.H., Clarke, S.P., Sloane, D.M., Sochalski, J.A., Busse, R., & Clarke, H. (2001). Nurses' reports on hospital care in five countries. *Health Affairs*, 20, 43-53.
- Alberta Association of Registered Nurses. (2002). *Best Practice Guidelines: Research-Based Staffing for the Delivery of Nursing Care*. Edmonton, AB: Author.
- Alberta Health & Wellness. (1999). *Health aging: New directions for care. Long Term Care Review: Final Report of the Policy Advisory Committee*. Edmonton, AB: Author.
- Alberta Health & Wellness. (2000). *Strategic directions and future actions: Healthy aging and continuing care in Alberta*. Edmonton, AB: Author.
- Alberta Heritage Foundation for Medical Research. (2001). *Nursing skill mix and health care outcomes*. Edmonton, AB: Author.
- Baumann, A., O'Brien-Pallas, L., Armstrong-Sassen, M., Blythe, J., Bourbonnais, R., & Cameron, S. (2001). *Commitment and care: The benefits of a healthy workplace for nurses, their patients and the system*. Ottawa, ON: Canadian Health Services Research Foundation.
- Bliesmer, M.M., Smayling, M., Kane, R.L., & Shannon, I. (1998). The relationship between nursing staffing levels and nursing home outcomes. *Journal of Aging and Health*, 10(3), 351-371.
- Bowers, B.J., Esmond, S., & Jacobson, N. ((2000). The relationship between staffing and quality in long term care facilities: Exploring the views of nurses aides. *Journal of Nursing Care Quality*, 14(4), 55-64.
- Bowers, B.J., Luring, C., & Jacobson, N. (2001). How nurses manage time and work in long term care. *Journal of Advanced Nursing*, 33(4), 484-491.
- Clarke, H., Laschinger, H.K., Giovannetti, P., Shamian, J., Thomson, D., & Tourangeau, A. (2001). Nursing shortages: Workplace environments are essential to the solution. *Hospital Quarterly*, 4, 50-56.
- Cohen, J.W. & Spector, W.D. (1996). The effect of Medicaid reimbursement on quality of care in nursing homes. *Journal of Health Economics*, 15, 23-48.
- College and Association of Registered Nurses of Alberta, College of Registered Psychiatric Nurses of Alberta and College of Licensed Practical Nurses of Alberta. (2003). *Collaborative Nursing Practice in Alberta*. Edmonton, AB: Author
- College and Association of Registered Nurses of Alberta, College of Registered Psychiatric Nurses of Alberta and College of Licensed Practical Nurses of Alberta. (2003). *Decision-Making Standards for Supervision of Health Care Aides: Restricted Activities & Activities of Daily Living*. Edmonton, AB: Author.

- Estabrooks, C.A., Tourangeau, A.E., Humphrey, C.K., Hesketh, K.L., Giovannetti, P., & Thomson, D. (2002). Measuring the hospital practice environment: A Canadian context. *Research in Nursing & Health, 25*, 256-268.
- Harrington, C., Kovner, C., Mezey, M., Kayser-Jones, J., Burger, S., Mohler, M., Burke, R., & Zimmerman, D. (2000). Experts recommend minimum nurse staffing standards for nursing facilities in the United States. *The Gerontologist, 40*(1), 5-16.
- Kovner, C., & Gergen, P. (1998). Nurse staffing levels and adverse events following surgery in U.S. hospitals. *Image: Journal of Nursing Scholarship, 30*, 315-321.
- Mukamel, D.B. & Spector, W.D.(2000). Nursing home costs and risk-adjusted outcome measures of quality. *Medical Care, 38*(1), 778-89.
- Needleman, J., Buerhaus, P., Mattke, S., Stewart, M., & Zelevinsky, K. (2002). Nurse-staffing levels and the quality of care in hospitals. *New England Journal of Medicine, 346*, 1715-1722.
- Rantz, M.J., Hicks, L., Grando, V., Petroski, G.F., Madsen, R.W., Mehr, D.R., Conn, V., Zwygart-Staffacher, M., Scott, J., Flesner, M., Bostick, J., Porter, R., & Maas, M. (2004). Nursing home quality, cost, staffing, and staff mix. *The Gerontologist, 44*(1), 24-38.
- Schnelle, J.F., Simmons, S.F., Harrington, C., Cadogan, M., Garcia, E., & Bates-Jensen, B.M. (2004). Relationship of nursing home staffing to quality of care. *Journal of Health Services Research, 39*(2), 225-250.
- Stone, R.I. (2001). Research on frontline workers in long term care. *Generations, 25*(1), 49-57.
- Tourangeau, A.E., Giovannetti, P., Tu, J.V., & Wood, M. (2002). Nursing-related determinants of 30-day mortality for hospitalized patients. *Canadian Journal of Nursing Research, 33*, 71-88.
- Wilson, D.M., & Truman, C.D. (2002). Provincial long term-care resident socio-demographic and care trends, 1988-1999. Unpublished paper.

APPENDIX A: ANNOTATED BIBLIOGRAPHY

Cohen, J.W. & Spector, W.D. (1996). The effect of Medicaid reimbursement on quality of care in nursing homes. *Journal of Health Economics*, 15, 23-48.

The authors attempt to link Medicaid reimbursement with outcomes of care in nursing homes through the intermediary of staffing levels. More than 75% of nursing home costs are labour related. This study took staffing intensity as an element of quality by making the assumption that better staffing is likely to be associated with more individual attention to residents and an improved quality of life.

Staff intensity effects were found for both mortality and ADL outcomes, but not for bedsores. Higher RN staffing was associated with lower mortality. Extrapolating this, there would be about 1% fewer nursing home deaths annually (3000 deaths) with an average increase of 0.5 FTE RN/100 residents. Higher levels of LPN staffing had a small but significant effect on functional outcomes for the residents.

The authors conclude that the relationship between RN and LPN staffing and resident outcomes is complex but that in general, higher professional staffing intensity has a positive effect on outcomes. The professional mix may be more important than absolute numbers.

This older study makes indirect inferences from data mined from large databases. Its limited conclusions are supported.

Mukamel, D.B. & Spector, W.D.(2000). Nursing home costs and risk-adjusted outcome measures of quality. *Medical Care*, 38(1), 778-89.

This study used financial costing data and quality measures of functional status, worsening pressure ulcers and mortality to determine the relationship between costs and quality of care. Data were used from 525 independent nursing homes in New York state (84% of all nursing homes in 1991).

The study found that higher quality is not necessarily associated with higher costs. There appeared to be a curvilinear relationship such that low quality low cost nursing homes would experience increased costs were they to attempt to increase quality, while those nursing homes operating at a high quality level had achieved savings in some way such that they were not the highest cost facilities. The authors speculate that some quality improvements, such as better food service and better toileting, may reduce dependent needs of residents and promote a prolonged independence thus lowering overall care needs and costs. In particular maintenance of ambulation through quality measures, such as exercise programs and encouragement of frontline staff, may reduce physical care requirements (transfer, mobility, toileting assistance).

This is an old but frequently cited study that is one of the first to address the belief that higher quality care necessitates higher costs.

Harrington, C, Kovner, C., Mezey, M, Kayser-Jones, J, Burger, S., Mohler, M., Burke, R., & Zimmerman, D. (2000). Experts recommend minimum nurse staffing standards for nursing facilities in the United States. *The Gerontologist*, 40(1), 5-16.

This article presents the final recommendations developed by an expert panel on the amount and type of nursing staff considered essential to meet minimum standards of care in long term care settings. The panel was convened in response to several national surveys of serious problems in care done by the U.S. General Accounting Office (1998, 1999). These surveys showed that many nursing homes in the four states surveyed had caused actual or potential serious injuries including death in nursing home residents. The Institute of Medicine in the United States (1996) recognized the positive relationship between nurse staffing and quality of nursing home care and recommended adding more RNs to the staff of nursing homes.

Present staffing guidelines from the Health Care Financing Administration (HCFA) established in 1987 require only that nursing homes have an RN Director of Nursing, an RN on duty for eight hours/day, seven days/week; and a licensed practical nurse (or RN) on duty on evenings and nights. The law also recommends staffing to enable the highest practicable level of physical, mental and psychosocial well-being of each resident. Unfortunately, the law does not address the size of the facility nor does it have methods of auditing or monitoring.

The expert panel agreed on the following minimum staffing standards for nursing homes:

Administrative Standard:

- Full-time RN with a bachelor's degree as director of nursing
- Part-time RN assistant director of nursing (full-time in facilities > 100 beds)
- Part-time RN inservice educator (full-time in facilities >100 beds)
- Full-time RN nursing facility supervisor on duty at all times (24/7)

Direct Care Standard:

Minimum level of direct care staff:

Day shift	1 FTE for each 5 residents	(1.60 hr/resident day)
Evening shift	1 FTE for each 10 residents	(0.80 hr/ resident day)
Night shift	1 FTE for each 15 residents	(0.53 hr/resident day)

Minimum licensed nurses (RN/LPN) at the unit level:

Day shift	1 FTE for each 15 residents	(0.53 hr/resident day)
Evening shift	1 FTE for each 20 residents	(0.40 hr/resident day)
Night shift	1 FTE for each 30 residents	(0.27 hr/resident day)

Minimum total number of direct nursing care staff is 4.13 hr/resident day. Total administrative and direct and indirect nursing hours is 4.55 hr/resident day. Staffing must be adjusted upward for residents with higher nursing care needs.

Mealtime Care Staff:

- 1 FTE for each 2-3 residents who are entirely dependent on assistance
- 1 FTE for each 2-4 residents who are partially dependent on assistance

The article goes on to recommend that unlicensed workers (HCAs) have a minimum of 160 hours of training, including training in appropriate feeding techniques. The guidelines “strongly urge” a part-time geriatric nurse practitioner or clinical nurse specialist on staff (full-time for facilities > 100 beds).

This paper acknowledges that in the vacuum of research evidence on the amount of time required to deliver quality care to residents, expert opinion is currently the best approach to designing best practice staffing patterns. Studies are needed to test these recommendations against existing staffing patterns to show differences in the number of deficiencies or absence of deficiencies of care (currently the only measurement tool used for quality).

This study proposes specific hours of care but is limited by lack of research base linking hours with outcomes.

Schnelle, J.F., Simmons, S.F., Harrington, C., Cadogan, M., Garcia, E., & Bates-Jensen, B.M. (2004). Relationship of nursing home staffing to quality of care. *Journal of Health Services Research, 39*(2), 225-250.

This research report describes the relationships between unlicensed staffing levels in 21 nursing homes and directly measured processes of care to answer the question: “Is there a relationship between staffing, ... and the implementation of daily care processes that reflect quality of care?” Eighty-one of 175 nursing homes in the highest and lowest quartiles of reported staffing in Southern California were contacted. Fifteen nursing homes in each quartile were recruited to participate. Nine nursing homes in the lowest quartile staffed at 2.7 hours/resident day of unlicensed providers. Six nursing homes in the highest quartile staffed at 3.4 hours/resident day of unlicensed providers. Six nursing homes in highest decile staffed at 4.9 hours/resident day of unlicensed providers.

Data collection included onsite staff interviews to confirm reported staffing numbers on the three days of site visits. Sixteen care processes typically implemented by HCAs were measured using direct observation (standardized) and resident interview protocols during three consecutive twelve hour weekdays.

Licensed nursing care process measures were also gathered to see whether these were affected by the level of unlicensed staffing. These processes related to assessment/treatment for pressure ulcers, incontinence and pain.

Residents in the highest quartile nursing homes tended to be older, female, Caucasian and private pay, compared to residents in the lowest quartile who were more often in a minority group and subsidized pay. Lower quartile residents tended to be more ambulatory and had better cognitive functioning. The homes participating in the study were compared with homes not participating using publicly available data on costs and staffing. The participant homes were fairly well representative of a larger population of nursing homes.

Results indicated higher performance on 13 of 16 measured care processes in the highest decile of nursing homes in the study confirming the linkage between staffing levels of unlicensed providers and quality outcomes. Authors were surprised that the six highest quartile nursing homes showed no quality differences with the lowest quartile which suggested to them, that 3.4 hours of unlicensed care per resident day may be just under the critical number required for best practices. There were only small differences in the licensed nursing care hours and process measures between any of the homes. None of the nursing homes had licensed nursing hours that met expert recommendations available (Harrington et al, 2000). Finally, a limitation of the study was that other factors thought to impact on quality care in other studies were not measured in this one; these being the nursing administrative support, the salaries and the degree of turnover in the unlicensed providers.

This study is one of the first to offer a methodology for scientifically linking staffing hours and care outcomes.

Rantz, M.J., Hicks, L., Grando, V., Petroski, G.F., Madsen, R.W., Mehr, D.R., Conn, V., Zwygart-Staffacher, M., Scott, J., Flesner, M., Bostick, J., Porter, R., & Maas, M. (2004). Nursing home quality, cost, staffing, and staff mix. *The Gerontologist*, 44(1), 24-38.

This study examined processes of care, organizational attributes, cost of care, staffing level and staff mix in a random sample of 92 Missouri nursing homes stratified by good, average and poor resident outcomes derived from Minimum Data Set (MDS) resident assessment data.

Staff mix was uniform over the three outcome groups, that being 70% unlicensed, 14-20% LPN, and 10-14% RN. Nursing homes with good outcomes spent \$13.58 less per resident day in care than homes with poor outcomes. Good homes used 3.22 total direct care hours per resident day compared with 3.07 hours in homes with poor outcomes (not statistically significant).

The statistically significant differences in nursing homes that provided the best outcomes was in leadership, as demonstrated in the following:

- more stable (duration) senior administrator and director of nursing
- presence of an active quality improvement program
- staff aware of each resident's plan of care when questioned
- staffing for one staff person for one to two residents requiring assistance with feeding
- better RN follow-up for pain control and weight loss
- better observed care processes including:
 - ambulation
 - nutrition/hydration
 - toileting/bowel regularity
 - preventing skin breakdown.

The authors concluded that consistent leadership and leadership processes may enable the staff to focus and consistently accomplish the basics of care. Smaller facilities in this study tended to have better outcomes. The authors speculated that smaller facilities may facilitate more consistent resident assignments, allowing the staff to become familiar with the needs of each resident thereby being better able to anticipate and meet those needs. The lower care costs in nursing home with the best outcomes may reflect attributed associated with better leadership (e.g., less turnover, higher job satisfaction, etc.).

In summary, the authors proposed theoretical model of organizational attributes for nursing homes to achieve good resident outcomes:

Consistent Nursing and
Administrative Leadership

Team/group focus

Active Quality Improvement Program

Getting the Basics of Care Done!

Resulting in:

Assessment & Follow through for: Walking ability
Nutrition and weight
Hydration
Continence
Pain
Skin integrity

This study objectively and scientifically measured many of the factors believed to be associated with care outcomes in nursing homes. It questions some of the previous conclusions that licensed care hours in isolation impact care outcomes.

Bowers, B.J., Esmond, S., & Jacobson, N. ((2000). The relationship between staffing and quality in long term care facilities: Exploring the views of nurses aides. *Journal of Nursing Care Quality*, 14(4), 55-64.

This qualitative study examines the process of caring in nursing homes and conceptualizes staffing as a process variable rather than the traditional structural variable in other studies. The researchers allowed unlicensed providers (nursing aides) to define quality care through in-depth interviews and under observation. They defined quality care as being the relationship they establish with each resident. Once this relationship is established it generates trust, respect and affection between the aide and resident. This foundation allows care to be given “like family”. This context for care preserves a sense of dignity and competence for the resident.

The authors felt that research to date had established that staffing is an antecedent that partially determines quality of care, but fails to explain “how” the two are linked. They cite several other studies that recently have established the importance of relationships between caregivers and residents when residents themselves were interviewed. They conclude that assessment of staffing requires more than just counting heads. Staff who do not have relationships with the residents may actually be a hindrance to quality care.

This is a strong qualitative study that takes our understanding of the complex nature of quality nursing home to a new level.

Bowers, B.J., Luring, C., & Jacobson, N. (2001). How nurses manage time and work in long term care. *Journal of Advanced Nursing*, 33(4), 484-491.

This exploratory qualitative study used interviews of 18 licensed nurses employed in two nursing homes to better understand how nurses do their work. This work follows on previous work done by the authors with nurses aides to understand how they do their work and how they associated quality care with their work. The authors propose staffing as more than just a structural component (staff/patient ratios/hours) but more importantly as a process component (how the work is performed) and that the how may be more important to quality than just staffing numbers.

Nurses interviewed related quality care to accomplishing the “should do” work rather than just the “must do” work. They defined adequate staffing as that which allowed them to accomplish the “should dos”. This directly related to the work satisfaction they felt at the end of their shift.

They reported that they organized their work either by task or by resident. Organizing the work by resident reduced their ability to respond to others and increased the chance of an interruption to the care being given. Organizing by task meant getting the “must dos” done more reliably, but less time for any individual resident. They stated time was an important part of quality.

The nurses reported that assignment to residents they were familiar with decreased their assessment times and made unanticipated interruptions easier to manage. They felt that establishing and maintaining relationships with residents were their most important and rewarding work, but this “emotional” work was the first to be postponed with competing needs for their time.

Clearly this work is part of a longitudinal program of research by the authors to introduce and promote a new paradigm for understanding quality care and staffing in long term care. This theoretical foundation should be taken on to more quantitative testing of care outcomes in the future.

Stone, R.I. (2001). Research on frontline workers in long term care. *Generations*, 25(1), 49-57.

This review of the literature tells us that unlicensed nursing home caregivers are among the lowest paid workers in society. When economies are growing it is more difficult to find these workers. These frontline workers are the “eyes and ears” of the long term care system. They use “high touch” methods to build relationships with residents. The current crisis of manpower provides a window of opportunity to transform the LTC workplace and culture into one that respects and empowers the unlicensed worker. The development of a stable LTC professional and frontline workforce is a systemic and increasing challenge in the 21st century.

This is a health care policy article addressing the recruitment and retention of caring professional and unlicensed workers in order to provide our growing frail senior population with the quality care they deserve.

Wilson, D.M., & Truman, C.D. (2002). Provincial long term-care resident socio-demographic and care trends, 1988-1999. Unpublished paper.

Wilson, D.M. (2003). The comparative use of health services over a two-year period by LTC residents, home care recipients, and the well elderly in Alberta. Unpublished paper.

These two studies used province of Alberta long term care data to demonstrate significant increases in age and care level (higher intensity) among long term care residents in Alberta between 1988 and 1999. These increases are characterized by a decrease in average length of stay until death from 6.9 years to 3.4 years. The mean care requirement classification rose from C level in 1988 to E in 1999. A closer study of this difference showed a significant decrease of residents in the minimal care categories (A, B) and increases in residents with high level needs. The authors suggest that this change in care level has implications for LTC facilities and staffing.

The second phase of their study showed significantly less acute care interventions used by long term care residents when compared with home care recipients or community based well-elderly. They speculate that the consistent observation and nursing care provided may act to stabilize the health of these frail older adults and prevent some acute disease exacerbations. Given the higher age and acuity of long term care residents, the authors are concerned that adequate numbers of long term care facility beds be provided in the future so that this level of nursing supervision is available for optimal outcomes.

The authors (personal communication) reported finding more purposeful hospital care and shorter hospital stays after admission to long term care. "The data did not indicate to us that there were quality issues, instead a different model of care was being provided, as opposed to the previous episodic and mainly medical care they had been receiving in the community."

This survey of provincial health data confirms a finding known to practitioners: That LTC residents are discharged earlier from acute care and are not admitted as readily. The data per say does not lead to conclusions about staffing levels or care outcomes in the nursing homes themselves.

Harrington, C., O'Meara, J., Collier, E., & Schnelle, J.F. (2003). Nursing indicators of quality in nursing homes: A web-based approach. *Journal of Gerontological Nursing*, 29(10), 5-11.

This article cites growing web-based resources available to consumers to assist in the selection of nursing homes. In particular, the authors were instrumental in the development of the California Nursing Home Search website (www.calnhs.org). This site provides data on facility characteristics, resident characteristics, staffing, quality, deficiencies and complaints, and financial indicators.

Nursing homes are rated by a three star system. To rate three stars, a facility had to have a minimum of 4.1 hours per resident day (hprd), based on a study funded by the federal government in 2001. This study showed that staffing levels below this could jeopardize or harm residents. Only 8% of facilities achieved the three star rating. Only 11% and 58% of California had the minimum required RN and LPN staffing, respectively.

Staff turnover rates are reported on the California website also. The state average facility turnover was 78% in 2000 to 2001. The NA turnover rate was also 78%, the same as the national average. The NA turnover rate ranged from 4% to 196% in California. A three star rating is given to the nursing homes in the lowest one-third of turnover rate.

Previous work was cited showing that not-for-profit and facilities accepting Medicare recipients had higher staffing and those accepting primarily Medicaid recipients had lower staffing.

This report about public disclosure of factors associated with quality nursing home care will potentially empower consumers to select/reward the facilities with the potential for better care outcomes. This could encourage operators and chains to provide adequate staffing and ensure higher occupancy. It adds a marketplace advocacy to the research, policy and legal efforts being made to improve nursing home care.

Bliesmer, M.M., Smayling, M., Kane, R.L., & Shannon, I. (1998). The relationship between nursing staffing levels and nursing home outcomes. *Journal of Aging and Health, 10*(3), 351-371.

This study of all Minnesota nursing homes attempted to relate facility attributes (size, ownership, noncompliance with a state correction order, and licensed and unlicensed nursing hours) with specific outcomes (functional ability, discharge home and death). The principal finding related to licensed hours of nursing care was that residents were less functionally dependent, more likely to be discharged home and to survive longer in facilities with higher licensed nursing hours. Total dependence scores did not vary with hours of licensed nursing care for residents who died or were not discharged (chronic residents).

The authors suggest that measurement of quality care in nursing home must expect a “reasonable level of benefit”. For some residents quality care will result in improved function. For others it may represent a slowing of inevitable decline. Too often in the past untoward events rather than functional ability have been measured in nursing home quality studies.

This is an older study with a significant result concerning licensed nursing hours.

U.S. Centers for Medicare & Medicaid Services, Prepared by Abt Associates Inc. (2001).
Appropriateness of minimum nurse staffing ratios in nursing homes (Report to
Congress: Phase II Final, Volumes I-III). Baltimore, MD: Author.

Found that staffing levels below 4.1 hours per resident day (hprd) (licensed and unlicensed hours) could harm or jeopardize residents living in a facility longer than 90 days. It showed that 2.8 unlicensed hprd are needed to conduct minimum care activities in facilities with low resident care needs (case mix), 3 hprd are needed for facilities that have residents with moderate care needs, and 3.2 hprd are needed for facilities with residents who have heavy care needs.

This study found also that .75 hprd RN time was a minimum standard. LPN minimum hours were reported as .55 hprd.

Cited in Harrington et al, 2003.