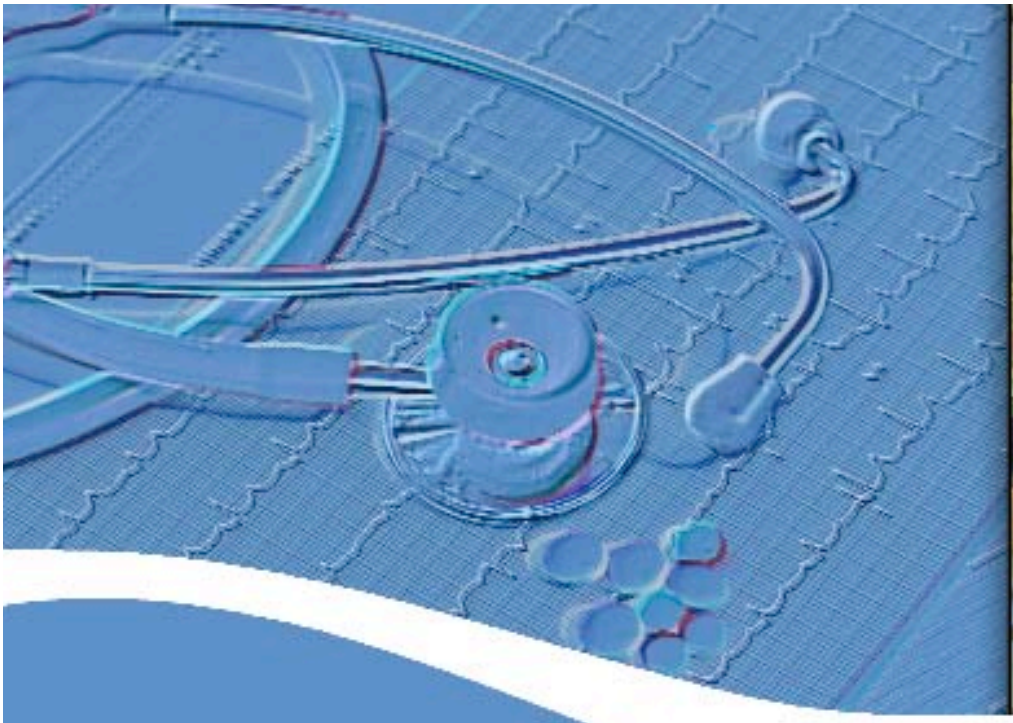
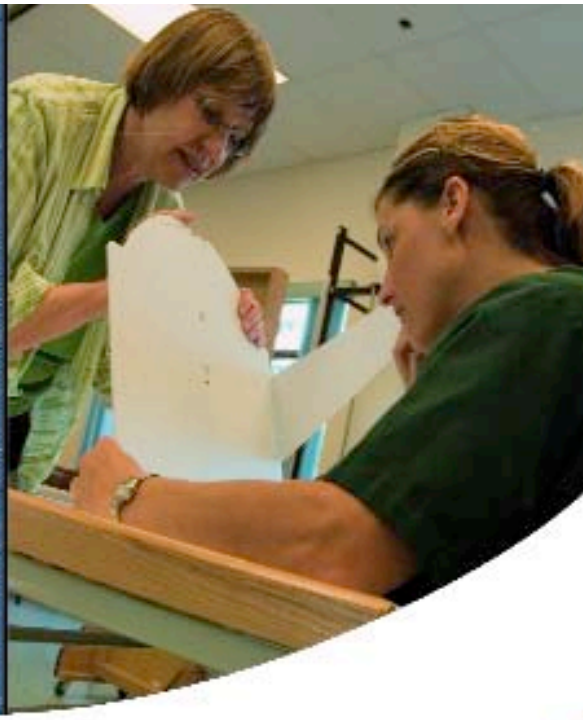
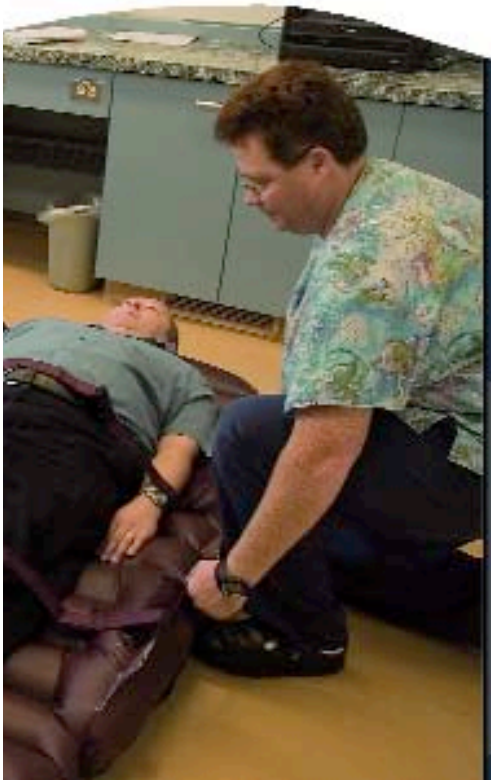




RIVERVIEW RESEARCH CENTRE

Advancing Care Through Research



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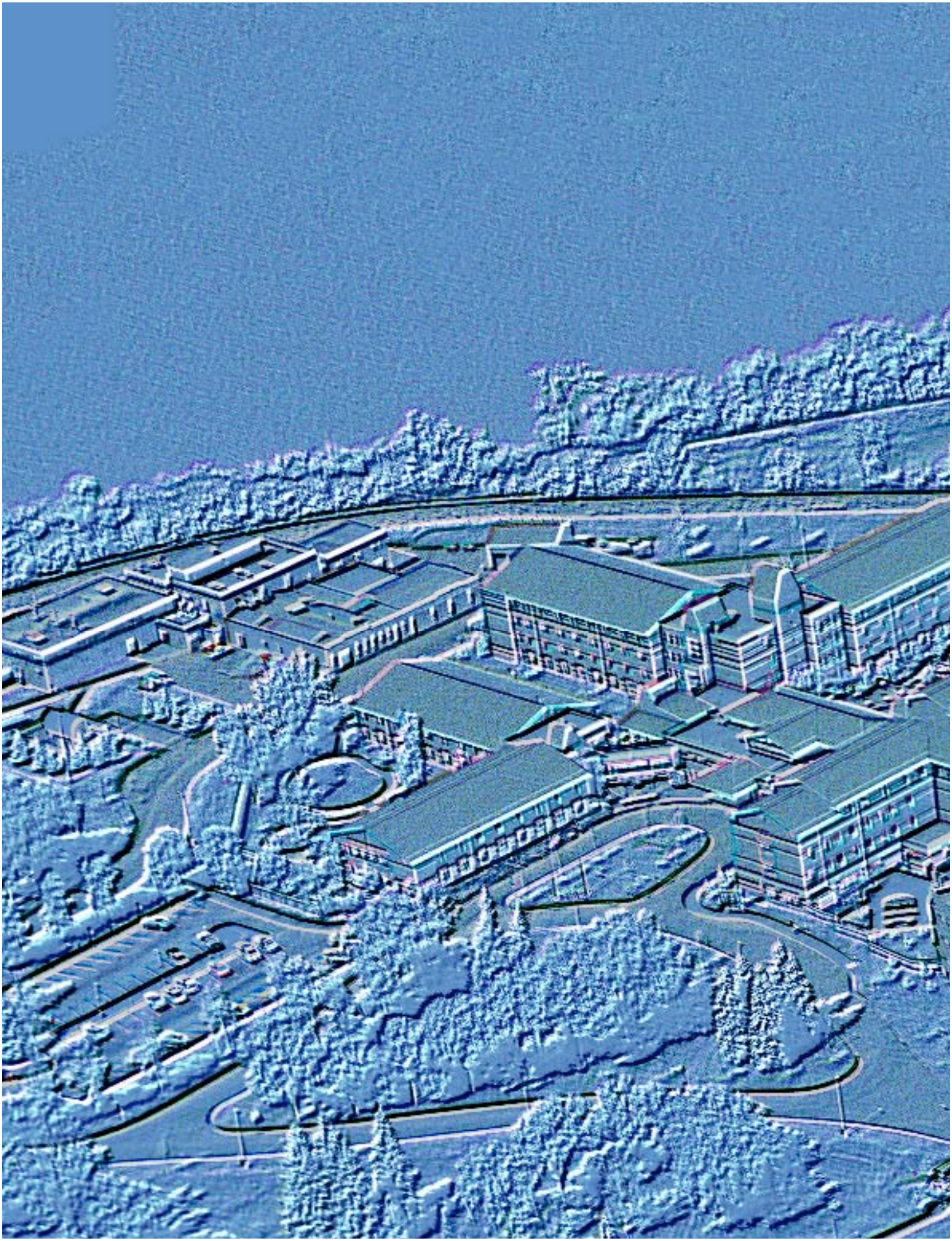


Riverview Research Centre
Advancing Care Through Research

The Riverview Research Centre strives to create knowledge through research – knowledge that, in turn, can be shared with the international health care community and put into practice. The Centre supports, creates and develops research opportunities in a variety of important areas.

People who come to the Centre to take advantage of its research capacity include academics from universities and other educational institutions, graduate and medical students, as well as Riverview staff members with an interest in a particular area of health care. Often, academics and staff members function as a team so that on-the-job expertise can be combined with knowledge in project design, development and analysis. In all cases, the goal of these energetic, focused and multi-disciplinary researchers reflects the mission of the Riverview Research Centre: to benefit the lives of patients, their families and their caregivers through ongoing investigations.

Three Years of Studies

This publication presents descriptions of research studies that have taken place through the Riverview Research Centre from 2005 to 2007. The depth and breadth of topic areas vary widely: they range from spatial and motor issues to product investigations to end-of-life care considerations. Some of the studies are complete and the results are available to the public, while others are ongoing.

Anyone who would like further information about any of the research projects described within are invited to contact the investigators directly.

Researchers are encouraged to take full advantage of the benefits available through the Riverview Research Centre, including:

- **a diverse patient population base with programs that care for people with acquired brain injury, Alzheimer disease, cancer, stroke, diabetes, heart disease, respiratory disorders and specialized geriatric medicine.**
- **dedicated research space with individual offices, large and small conference rooms, high speed internet access and statistical software systems.**
- **financial resources through an open annual research competition.**
- **the assistance of on-site clinical nurse specialists.**
- **data storage to protect confidentiality of information.**
- **multi-media services.**
- **provincial Telehealth site.**

Working Together:
Academic Researchers and Clinicians Join Forces to Improve Patient Care

The Riverview Research Centre is a leader in collaborative research in rehabilitative, palliative and long term care. Here, the bond between researchers from the academic world and those in clinical practice are encouraged and supported. It is a worthwhile partnership: university-based researchers bringing expertise in project design join forces with health care clinicians who are equipped with hands-on, front-line experience. Mobility and balance in frail older adults, patient safety, advance care planning and spirituality in long term care residents are the topics addressed in this section as researchers blend their knowledge and efforts to benefit patients and their families.

Leah Weinberg

Rehabilitation Assessment Measures: Application of the Hierarchical Assessment of Balance and Mobility and Perceived Control in a Geriatric Medicine Unit

Being mobile and having good balance are essential ingredients to independent living and the highest possible quality of life. But for frail older adults, problems with mobility and balance significantly affect how they manage their activities of daily living.

Psychological barriers, such as feelings of helplessness, may negatively influence a person's rehabilitation progress. Some older adults may believe that they have no personal control or influence over their health, and therefore are not likely to be motivated to "try" with their therapy. The result? Fewer benefits from the rehabilitation program and, in the long run, a more dependent quality of life.

Dr. Weinberg is concerned with the hypothesis that lower levels of function in frail older adults may be related to feelings of helplessness or weaker beliefs in control over health, whereas higher levels of function may be related to stronger beliefs in control over health. Those with weaker control beliefs may be unmotivated to put effort into their rehabilitation program, leading to poorer functional outcomes.

However, available tools or methods of assessing a weak or frail person's basic physical abilities, such as balance and mobility, do not always meet the need to assess the degree of frailty experienced by the person. By studying the relationship or links between physical assessment and health-related control beliefs, future research can develop ways to enhance perceived control, which may in turn motivate older adults to achieve success in their rehabilitation programs.

The goal of this investigation was to establish the validity and reliability of a physical function assessment tool called the Hierarchical Assessment of Balance and Mobility (HABAM) in 26 older adults from Riverview Health Centre's Geriatric Medicine Unit. As well, health-related control beliefs were assessed using both quantitative and qualitative interview questions.

Investigators: **Leah Weinberg,** PhD, MSc, BPT, Department of Physical Therapy, University of Manitoba, **Colleen Alecci,** DPT, Riverview Health Centre, **Heli Dedi,** RN, BScN, MScA, Riverview Health Centre

Cornelia van Ineveld

Planning for Patient Safety

Older people who live in the community face a higher risk of experiencing events that could compromise their health and safety. Known as adverse events, these include falling, mixing medications or becoming malnourished. This study looks at how day hospitals work to reduce the risk of these unanticipated health and safety problems for community-dwelling clients. Riverview Health Centre is housing the team of researchers working on the project.

The study identifies the strengths and weaknesses in the process of how day hospital teams prepare discharge plans and how they communicate the content of these plans to community-based health care providers. Once this information is gathered, the researchers will work with key stakeholders – including day hospital teams, families, physicians, home care coordinators, community pharmacists and health policy decision makers – to identify strategies that will work to decrease the risk of adverse events for older people who reside in the community.

The team will gather the information in three stages through focus groups, interviews and chart reviews. It is hoped that the recommendations that emerge will help clinicians to address and potentially resolve health risks for older adults.

Investigators: **Cornelia van Ineveld,** MD, MSc, FRCPC, St. Boniface Hospital, **Elizabeth Boustcha,** MScA, MD, FRCPC, Riverview Health Centre, **Daryl Dyck,** RN, MN, Winnipeg Regional Health Authority, **Ruby Grymonpre,** BScPharm, PharmD, FCSHP, Faculty of Pharmacy, University of Manitoba, **Alan Katz,** MBChB, MSc, CCFP, FCFP, Departments of Family Medicine and Community Health Sciences, University of Manitoba, **Michelle Nelson,** BA, BRS, MA, Faculty of Pharmacy, University of Manitoba, **Linda Smyrski,** RN, Manitoba Health, **Laurie Thompson,** RN, MN, Manitoba Institute for Public Safety, **Gina Trinidad,** BA, RN, MN, Winnipeg Regional Health Authority

Donna Goodridge

Institutional Advance Care Planning: Practice and Policies in Three Western Canadian Long Term Care Facilities

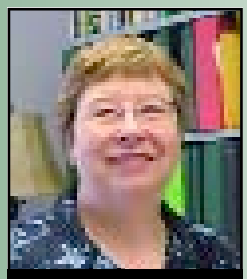
Donna Goodridge and her colleagues, Pat Yamada and Carole Hamel, are examining the way residents in long term care settings, and their families, are involved in planning their future care and the means by which staff facilitate this process. This study develops an efficient method for gathering information about policies and best practices in institutional advance care planning in Canada.

Institutional advance care planning (IACP) is an institution initiated discussion between professionals, patients and families about health care to ensure that end-of-life treatment aligns with a patient's wishes. It may be a mandatory component of the admission process, especially in long term care. When a resident or patient is cognitively impaired, decisions about treatment options may include or require family or proxy involvement. In some Canadian institutions, IACP is replacing advance directives ("living wills") which are often too vague or limiting to be clinically useful. IACP also fills the void where no advance directive exists. Unfortunately, there has been no systematic investigation of how IACP has evolved in Canada.

The study explores practice and policy in three western Canadian long term care facilities: Riverview Health Centre in Winnipeg and Parkridge and Sherbrooke centres in Saskatoon. A major goal of the project is the development of an effective method of data-gathering rather than the information itself.

Five staff members at each of the three centres are completing a web-based survey about IACP, designed by the investigators. As this is web-based, rather than being mailed and requiring a written response, it is economical, fast and easy for busy professionals to complete, thus increasing the response rate. The investigators are also developing a tool for analyzing the administrative policies relating to IACP at the three centres. Two patients, two family members and two staff members from Riverview and Parkridge are participating in a qualitative interview designed to elicit feedback from those involved in the IACP process.

Investigators: **Donna Goodridge,** RN, PhD, CHPCN(c), College of Nursing, University of Saskatchewan, **Pat Yamada,** RN, MSN, Riverview Health Centre, **Carole Hamel,** RN, MN, Riverview Health Centre



Doreen Smith

Achieving Wisdom: Older Adults' Definitions of Spirituality and Expectations for Spiritual Care in a Long Term Residential Setting

Do older people who live in long term care settings receive the opportunity to meet their personal spiritual needs? These researchers decided to investigate this issue because the importance of spirituality has recently been recognized as a fundamental component of holistic health.

Twenty cognitively capable older adult residents of Riverview Health Centre participated in this study. Using individual in depth interviews, the investigators examined the residents' definitions of spirituality and spiritual well-being, as well as their attitudes toward their own social and physical aging. Interviewees were also asked to express their expectations and aspirations pertaining to spiritual care. More specifically, what could their caregivers, both formal and informal, do to enhance the older adults' expression and experience of spirituality, in particular, and quality of life, in general?

The interviews were audio taped and transcribed. NVIVO qualitative data analysis software was used to separate responses according to dominant themes. The extensive data which emerged is currently being analyzed.

In their final analysis, the researchers expect to identify linkages between older adults' definitions of spirituality, expectations for spiritual care and their experiences of the aging process, particularly their present self-assessed health status. In short, do they use spirituality to cope with the aging process?

The practical implications for long term care facilities could be the need to create a climate in which older adults can ask for spiritual help or be able to express their spiritual needs easily. For example, residents in long term care need opportunities to attend a religious service if they wish to. They need to be made aware of available spiritual programs, such as a meditation session or a reading from a spiritual author. Other needs can be identified by the residents themselves, and health care staff, in addition to being attentive and helpful, should be trained to respond to issues of spiritual care.

"Spirituality is an integral part of the life long learning process," says principal investigator Doreen Smith. "People need to be able to experience and practice their spirituality in a long term care setting just as they would if they were living in the community." It is anticipated that the results of this research will be of use, not only to theoreticians and researchers from a variety of disciplines, but also to professionals, practitioners and volunteers who work with older adults, especially those in long term care settings.

Investigators: **Doreen Smith,** BA, MA, PhD, Department of Sociology, University of Winnipeg, **Glen Horst,** MDiv, DMin, CPE(TS), Riverview Health Centre, **Gwen Friedrich,** BPAS, MSc, Canadian Centre on Disability Studies (formerly)

From the Halls of Learning:
University-based Researchers Experience Benefits of On-site Studies

University-based researchers are discovering a rich resource at Riverview Health Centre. With the diverse client population, investigators are able to identify and successfully solicit patient groups that fit their area of study. From examining the impact of textiles on the skin to assessing dignity and distress in those nearing end-of-life, the possibilities for research are almost limitless. Recently, two new patient programs were added to Riverview's mix: Neurology Rehabilitation in the areas of Acquired Brain Injury and Stroke. Already, patients in these programs have shown a willingness to participate in research studies initiated by academic investigators. The common goal of these studies is to incorporate research-based knowledge into practice so that rehabilitation patients will experience better outcomes.

Researchers coming to Riverview from academic settings enjoy a myriad of supports, such as assistance from on-site clinical nurse specialists, the availability of office space and conference rooms, confidential data storage and the backing of an administration that values collaboration in evidence-based research practices.

Nursing student and instructor at a bedside equipped with a transfer pole.

Lorna Guse

Researching Patient Safety from an Education-Systems Perspective

When errors that endanger patient safety occur in health care settings, they are rarely the result of the purposeful action of any one person. With this in mind, emphasis is shifting away from the culture of blaming individuals to examining systemic factors in the health care system that may contribute to errors in clinical practice.

This ground-breaking research looks at learning more about patient safety within the context of nursing education by taking this systemic approach to errors that occur during nursing students' clinical placements. Could anything be changed in nursing education that could reduce the number of nursing students' errors, near misses and adverse events? For example, is the ratio of students to clinical education facilitators adequate? Are there characteristics of students that need to be addressed from a systemic perspective?

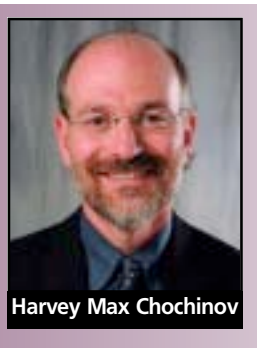
Errors that endanger patient safety are rarely the result of the purposeful action of individuals.

To establish a baseline of the types and frequencies of nursing students' errors, near misses and adverse events, the researchers analyzed Performance Improvement Plans (PIPs) of students participating in placements at Riverview Health Centre, Health Sciences Centre and Victoria General Hospital. (PIPs are individual student records that include inadequate performance in clinical practice, selected remedial action and re-evaluation.) As well, focus groups with nursing students, classroom and clinical faculty members and nursing education administrators took place, along with individual interviews with the clinical course leaders and nurse managers and staff nurses in the facilities.

Data is currently being analyzed and will be made available in the fall of 2007. It is expected that the results will assist educational and health care agencies to work together to address systemic changes in nursing student education, with an eye to reduce errors and thus improve patient safety.

Investigators: **David Gregory,** RN, PhD, School of Health Sciences, University of Lethbridge, **Lorna Guse,** RN, PhD, Faculty of Nursing, University of Manitoba, **Penny Davis,** BScN, MEd, Faculty of Nursing, University of Manitoba, **Diana Davidson Dick,** RN, Past Dean of Nursing, Nursing Division of the Saskatchewan Institute of Applied Science and Technology (SIAST), **Cynthia Russell,** RN, PhD, ANP, University of Tennessee (Memphis)

David Gregory



Harvey Max Chochinov

Dignity and Distress Across Various End-of-Life Populations

When someone is nearing the end of life, how do family members and caregivers ensure that the person is dying with dignity? A team of researchers lead by Dr. Harvey Max Chochinov has been working for nearly two decades, focusing primarily on end-stage cancer, to find answers to this question. From their body of research has come a deeper understanding of dignity and a model of dignity in the terminally ill. This empirical model guides caregivers on how to deliver holistic, quality, "dignity-conserving" end-of-life care.

However, people facing end-of-life circumstances other than cancer may experience different circumstances because their conditions may manifest themselves and progress differently. Chochinov and his team are now taking their research further in order to understand the experiences occurring in these other end-of-life circumstances, including: patients with amyotrophic lateral sclerosis (also known as Lou Gehrig's disease); patients with end-stage renal disease; patients with advanced chronic obstructive pulmonary disease; the institutionalized frail elderly; and patients with end-stage cancer (to enable the researchers to compare how the issues differ between this group and the previous four).

The PDI allows patients to rate their degree of distress on various items that might influence their sense of dignity.

In the first phase of this study, the researchers are testing a psychometric instrument – the Patient Dignity Inventory (PDI), which has been used with cancer patients – to determine whether it is suitable for other end-of-life populations. Developed by Chochinov's team, the PDI allows patients to rate their degree of distress on various items that might influence their sense of dignity and includes psychosocial, existential and spiritual perspectives. One hundred patients in several Winnipeg facilities, including Riverview Health Centre, that offer long term or end-of-life care are participating in this project. The results from this phase will help the researchers to adjust their protocol for the various end-of-life populations being studied. This first phase will serve to validate the PDI in these non-cancer populations and establish its feasibility for use in the proposed Phase II of the study – a national, multi-site study examining dignity in people facing various end-of-life circumstances.

This study is the beginning of investigation into end-of-life issues in non-cancer populations so researchers can identify ways to intervene in an empathetic, understanding and helpful way.

Investigators: **Harvey Max Chochinov,** MD, PhD, FRSC, OM, Department of Psychiatry, University of Manitoba, **Susan McClement,** RN, BN, MA, PhD, Faculty of Nursing, University of Manitoba, **Tom Hack,** PhD, CPsych, Faculty of Nursing, University of Manitoba, **Mike Harlos,** MD, Medical Director of Palliative Care, WRHA, **Tom Hassard,** PhD, Department of Community Health Sciences, University of Manitoba, **Murray Enns,** MD, Head, Department of Psychiatry, University of Manitoba, **Chris Bourque,** MD, Faculty of Medicine, University of Manitoba, **Clare Ramsey,** MD, PhD, Department of Community Health Sciences, University of Manitoba, **James Zacharias,** MD, FRCPC, Section of Nephrology in the Faculty of Medicine, University of Manitoba, **David Strang,** MD, FRCPC, Deer Lodge Centre

People with hemispatial neglect, a common result of stroke, are unable to comprehend anything to the left, such as the numbers on the left side of a clock.

Jonathan Marotta

Hemispatial Neglect: A Multidisciplinary Investigation of the Effects on Visual Perception and Visually Guided Action

Hemispatial neglect, a common result of stroke, is a disorder that erases the left half of its victim's world. It's as if the person is unable to comprehend anything to the left – neither the numbers on the left side of a clock nor the food on the left side of a plate, for example.

However, research by Jonathan Marotta reveals that programming and control of visually guided grasping is also impaired, possibly because the brain can't form a complete image of the object for which the person is reaching. Using participants recruited through Riverview Health Centre, Dr. Marotta is exploring this area to provide a better understanding of the neurological basis of hemispatial neglect and its effects on perception and action.

In collaboration with health professionals at Riverview Health Centre, the Dr. Marotta is recruiting participants in each of three categories: a group of healthy, elderly people; people with brain damage but not in the area that causes hemispatial neglect; and people with hemispatial neglect. The experimental procedures are being conducted at the university, at Riverview, or in the patient's home.

The goal is to provide a better understanding of the neurological basis of hemispatial neglect and its effects on perception and action.

Dr. Marotta and his investigative team use two sets of 12 wooden shapes to do same/different discrimination tests and grasping tasks. Specialized technology tracks the movement of the participants' index finger, thumb, wrist and eyes as they reach and grasp for the wooden shapes. Functional magnetic resonance imaging is also used to learn what the brain is doing while performing certain tasks.

Insights from this research will not only tell scientists more about the human brain, but will ultimately lead to the development of sophisticated diagnostic tools and more theoretically-motivated approaches to the rehabilitation of patients with hemispatial neglect.

Investigator: **Jonathan Marotta,** PhD, Department of Psychology, and Director of the Neuropsychology of Vision Perception and Action Laboratory, University of Manitoba

Christina Lengyel

Assessment of Food Service Satisfaction of Older Adults in a Personal Care Home

People with cognitive impairment are often excluded from food service satisfaction surveys in personal care homes, even though they represent over 50 per cent of the population. "Researchers often don't ask people with dementia for their opinions because they don't think their answers will be accurate," says Dr. Christina Lengyel.

In this study, Dr. Lengyel conducted a food service satisfaction survey addressing three areas of food service satisfaction: aspects of food; aspects of food service delivery; and quality of life. One hundred and forty residents at Riverview Health Centre participated in this investigation. Their average age was 81; 36 per cent had cognitive impairment and 64 per cent did not.

Both cognitively impaired and non-impaired residents were highly satisfied with all three areas, and no significant differences were found between the responses of cognitively impaired and non-impaired participants. Only "aspects of food" received less positive responses. The responses from cognitively impaired residents were generally more positive.

This project demonstrates that if the survey is designed appropriately, institutions can include residents with mild to moderate cognitive impairment.

Investigator:
Dr. Christina Lengyel, PhD, Department of Human Nutritional Sciences, University of Manitoba

Mark Bayley

Stroke Canada Optimization of Rehabilitation by Evidence Implementation Trial (SCORE IT)

Research regarding the best practices to use in stroke rehabilitation has great potential to improve the lives of people who have suffered a stroke. However, researchers at the Canadian Stroke Network have found that the knowledge gained from research studies is often not translated into practice, or there is significant variation amongst rehabilitation sites in Canada.

The SCORE-IT project includes 20 rehabilitation sites (including Riverview Health Centre) across Canada. The study compares two different methods of assisting practitioners to put into clinical practice some rehabilitation interventions that have been found to be effective. The two different methods are "outcome-oriented" and "process-oriented" implementation strategies.

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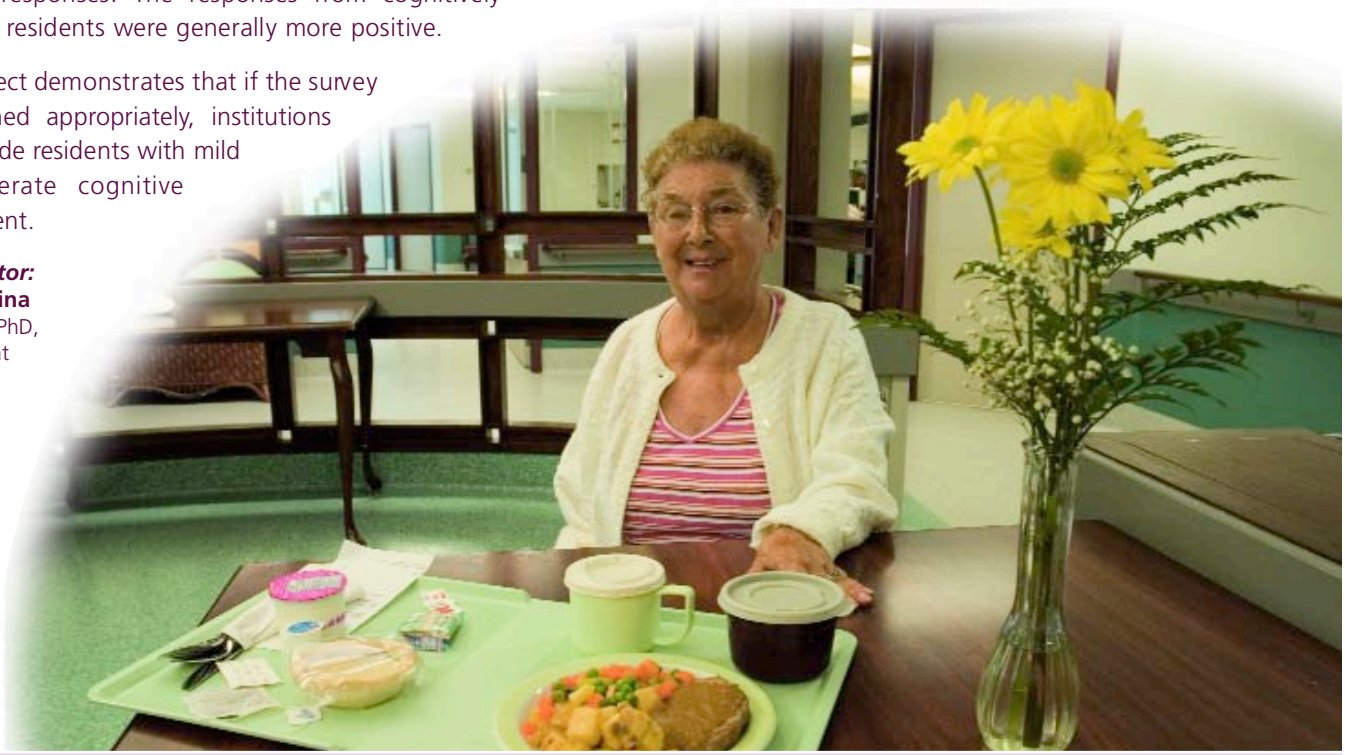


Health care teams allocated to the outcome-oriented strategy are provided education about how patient rehabilitation outcome measures can be used to improve the team's practice. Health care teams assigned to the process-oriented method receive strategies to promote how the team works together to use evidence to meet the rehabilitation goals of the patients.

In Phase I of this study, completed in 2003, the researchers created best practice guidelines for post-stroke arm and leg rehabilitation based on the latest research evidence. In Phase II, rehabilitation teams in the 20 centres are taught the five arm and leg outcome measures. Each centre is randomly assigned to either the outcome-oriented or the process-oriented implementation strategy. A site coordinator collects these outcomes and measures the extent to which the rehabilitation team members follow the identified best practices using a variety of methods, including patient charts, observation of therapy sessions, checklists completed by the team and a focus group.

Helping rehabilitation practitioners change their practice to incorporate research-based knowledge is a goal of the study.

The results should help rehabilitation practitioners change their practice to incorporate research-based knowledge so that stroke patients will experience better outcomes.

Investigators: **Mark Bayley,** MD, FRCPC, Toronto Rehabilitation Institute, **Sharon Wood Dauphinee,** PhD, PT, Department of Epidemiology & Biostatistics, McGill University, **Merrick Zwarenstein,** MBBCh, Institute for Clinical Evaluative Sciences, University of Toronto

Wen Zhong

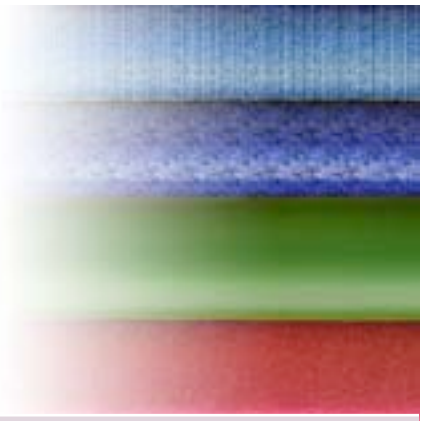
Textiles and the Skin: Impact on Formation and Prevention of Bedsores

Bedsores and pressure ulcers, which are areas of localized damage to the skin and underlying tissue caused by pressure, present a significant risk to long term care patients in health care institutions, particularly those who lack mobility. This study investigates the interactions between fabric and skin and their impact on the formation and prevention of bedsores.

Dr. Zhong was granted access to pressure ulcer monitoring surveys of the patient population at Riverview Health Centre. Twenty-one patients were recruited to participate – some had pressure ulcers and other skin problems, some did not. Staff caring for these patients completed a questionnaire covering detailed information about the patients' skin problems, as well as the fiber content of a variety of textile products used by the patients, such as bed sheets, sleep wear, wheelchair seat covers and incontinence products. The questionnaire also asked for information regarding the frequency and length of time patients use these products.

From the data collected, correlations were made between the properties of fabrics used and the presence of bedsores, pressure ulcers and other skin problems. Currently, the researcher is testing these fabrics regarding properties such as pressure, moisture dissipation, shear (the force that is parallel to the plane of the contact surface) and friction.

Investigation into the impact of textile projects on the formation of bedsores will ultimately lead to prevention and relief of problematic skin conditions, optimizing comfort and improving quality of life for patients.



Investigator:
Wen Zhong, PhD, Faculties of Human Ecology and Medicine, University of Manitoba

Tony Szturm

Evaluation of a Novel Rehabilitation and Educational Interactive Gaming Environment: Multifunctional Therapeutic Exercises for Balance and Mobility Made Fun and Exciting

As they age, adults can lose some of their balance and mobility skills. The reasons for this vary, but in many cases, the result is the same: seniors become afraid to go outside for fear of falling. Confined to their homes, they become sedentary and isolated.

A long term exercise program can help some rehabilitation patients regain mobility and improve their balance. The challenge is to make the therapeutic exercise interesting enough to sustain participation. Tony Szturm and Val Goodman are evaluating a novel approach, using a video game they have developed, that makes therapeutic exercise interesting. The interactive video game, coupled with a computerized pressure mat, allows patients to stand and move or sway their body to play the game. Day Hospital patients play the video game by standing on a computerized pressure mat set to mimic different outdoor terrains. They move or sway their bodies to control a cursor on the computer screen. Simultaneously, the computer tracks how long the patient plays, records the intensity level, and assesses performance.

All participants in the study come to Riverview Health Centre's Day Hospital twice a week for six weeks to do either interactive video gaming exercise, or conventional physical therapy. Fifteen patients receive therapy using the interactive gaming device, and 15 patients receive conventional physical therapy. Most of the participants are over the age of 80 and have significant mobility and balance issues.

A long term goal is to make the video game device inexpensive enough so that rehabilitation patients can do their therapeutic exercises at home on their personal computer, at no cost, while being monitored and assessed by a health professional at another site (e.g. clinic or hospital). Feedback can be instant via e-mail.

Investigators: **Tony Szturm,** BSc (PT), PhD, Department of Physical Therapy, School of Medical Rehabilitation, University of Manitoba, **Val Goodman,** DPT, Riverview Health Centre

Wayne Glowacki/Winnipeg Free Press, June 11, 2007. Reproduced with permission.

Ruby Grymonpre

Interprofessional Education in Geriatric Care

The Interprofessional Education for Geriatric Care (IEGC) project is being conducted at Riverview's Day Hospital, as well as at Deer Lodge and St. Boniface Day Hospitals – sites considered to be good role models for team-based health care delivery. The project is designed to train groups of University of Manitoba students from medicine, nursing, pharmacy, occupational therapy and physical therapy in the importance of patient-centred collaborative practice during their clinical rotations.

In addition to learning clinical skills, participating students spend 15 hours learning with, from and about each other, with an emphasis on interprofessional teaming in a real world setting. Students receive mentoring from the clinical team, do hands-on projects, and learn how to model team behaviours. Particular focus is placed on learning about the roles of other professionals, how to collaborate with these professionals, and developing the necessary attitudes and behaviours to make a team function. Participating faculty and preceptors are also receiving education and training opportunities in the area of interprofessional teaming.

A goal of interprofessional teaming is to show that, with appropriate training, health professionals can work as a team to deliver efficient and effective service, resulting in higher patient satisfaction.

Six rounds of "experiential blocks" (training students in interprofessional education), have been completed. Since the project began in July 2005, the investigators and project team have presented the IEGC project at various seminars and conferences locally, nationally and internationally.

Investigators: **Ruby Grymonpre**, BSc(Pharm), PharmD, FCSHP, Faculty of Pharmacy, University of Manitoba, **Cornelia van Ineveld,** MD, MSc, FRCPC, St. Boniface Hospital, **Elizabeth Boustcha,** MScA, MD, FRCPC, Faculty of Medicine, University of Manitoba; Riverview Health Centre.

Medical and Graduate Students: Choosing Riverview's Diverse Client Population

Many medical and graduate students strive to extend their education beyond the normal university experience through research conducted on-site at Riverview Health Centre. Their goal may be to enhance their own ability to mastermind an original research project, or their thesis may be part of a larger project overseen by a seasoned academic working within the students' areas of interest. In the five studies described here, students have found a good fit in client population, as well as informed assistance from health care professionals at Riverview. Both parties benefit: knowledge gleaned from students' studies is used to improve patient care, while students develop the research skills needed for their future academic endeavours.

The Clinical Utility of the biVABA as a Vision Screen for Determining Risk for Falls, Suitability of Power Mobility and Appropriateness of Cognitive and Visual Perceptual Testing in Older Adults

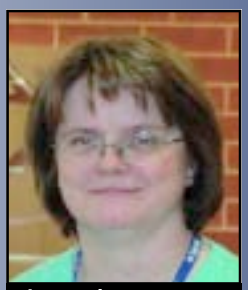
Visually impaired individuals who also have cognitive impairment from stroke, dementia or a brain injury may be unable to communicate vision problems to caregivers. Unidentified vision problems can negatively affect day-to-day functioning for these individuals, as they may be unable to safely participate in unit activities, such as self-care, hobbies or driving power wheelchairs.

The investigators examined the clinical utility of a vision screening test called biVABA (Brain Injury Visual Assessment Battery for Adults), which is a kit containing visual assessment equipment designed to be used by occupational therapists (OTs).

Once the researchers taught Riverview Health Centre OTs to use the test, it was found that the biVABA enabled the them to identify deficits in visual acuity, contrast sensitivity, visual fields, visual attention and oculomotor control. This information is valuable since it can aid the ophthalmologist with diagnosis. After a diagnosis is determined, the OTs can request specific information from the ophthalmologist to help them provide visual treatment interventions that will allow the individuals to make use of existing vision or learn efficient visual search strategies. Environment modifications can also be part of a treatment intervention.

As well, it was found that use of the biVABA helped speed referrals to specialists. Potentially, the biVABA could save a person's vision if an OT's observations identify serious vision impairments, such as macular degeneration, while treatment is still an option.

Investigators: **Alisa Kaplan,** OTM (Student), University of Manitoba, **Jennifer Nychek,** OTM (Student), University of Manitoba, **Stéfanie Prince,** OTM (Student), University of Manitoba



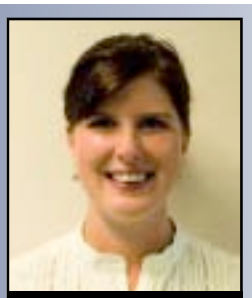
Rita Taylor

Community Environments and Participation in Occupations: A Study with Women with COPD

The incidence of chronic obstructive pulmonary disease (COPD) is on the rise in women. Its debilitating effects – shortness of breath, fatigue, a chronic cough, and increased susceptibility to infections and pneumonia – create challenges for women living with the disease. Rita Taylor formed an advisory group of four women with COPD who provided input to help her design an interview guide on the subject of women with COPD. She then conducted semi-structured interviews with 10 women with COPD, with some follow-up interviews for further clarification. These interviews probed how the women experienced their environment and discovered what helps and what hinders their ability to get out and participate in the community. The preliminary results were then taken back to the participants for verification.

The findings present recommendations to health professionals and service agency personnel who work with women with COPD. These include additional low cost options for transportation, expanding programs for persons with lung disease and improving access to public and private buildings.

Investigator:
Rita Taylor, BOT, OT Reg(MB), student, Masters of Science in Rehabilitation, University of Manitoba



Genevieve Thompson

Family Perceptions and Satisfaction with End-of-Life Care in Long Term Care Facilities

When an individual is approaching the end of life in a long term care facility, family members are encouraged to be present to provide meaningful and loving support.

Because they are so often at their loved one's bedside and are privy to the care provided, family members are in a good position to comment on the quality of end-of-life care and to offer recommendations on how to improve that care.

Genevieve Thompson assessed satisfaction with end-of-life care from a family perspective to obtain concrete recommendations for changes facilities can make that will enhance the end-of-life experience for all involved. She conducted telephone interviews with 87 family members of recently deceased residents from 12 long term care facilities in Winnipeg. She also held three focus groups with family members to develop recommendations for change.

Three predictors of family member satisfaction with the end-of-life care were found: good communication and contact with the nurses; involved health care aids and other health team members; death occurring in the facility rather than in a hospital after a transfer.

Recommendations emerging from the focus groups included: development by the facility of clear guidelines for care of the terminally ill, including pain control and other symptom management; physician continuity; exit interviews and bereavement follow-up; and the embracing by management of a philosophy of palliative care.

Investigator: **Genevieve Thompson,** RN, PhD, Department of Community Health Sciences, University of Manitoba

Cassandra Adduri

Face Recognition and Alzheimer Disease

"We used to think that people with Alzheimer's find it difficult to recognize a face simply because their memory is gone. But we're finding there may also be perceptual difficulties," says Cassandra Adduri, a student looking into face recognition and Alzheimer disease.

People without cognitive impairment can more quickly and accurately recognize a face when it appears turned at an approximately 45-degree angle. In her Master's thesis in Psychology at the University of Manitoba, Adduri tested whether persons with Alzheimer disease would also have this "preferred view."

Adduri recruited ten people with Alzheimer's from Deer Lodge Centre, the Alzheimer Society of Manitoba and Riverview Health Centre, and asked them to match a face at the top of a computer screen with one of two faces at the bottom of the screen. Some faces were shown at the same angle, and some were rotated. Contrary to previous research, participants in the study found it difficult to match the faces at all, regardless of the angle of orientation.

The researcher concluded that people with Alzheimer disease need contextual clues to aid in recognition.

Adduri concluded that people with Alzheimer disease may have face-specific impairment that makes it extremely difficult to recognize a face regardless of the angle it is presented. Instead, people with the disease must be given contextual clues to aid in recognition, such as reminding the person of the relationship and shared experiences he or she has with the visitor.

Investigator: **Cassandra Adduri,** BSc (Hon. Psychology), Graduate Student, Department of Psychology, University of Manitoba

Alice Kam

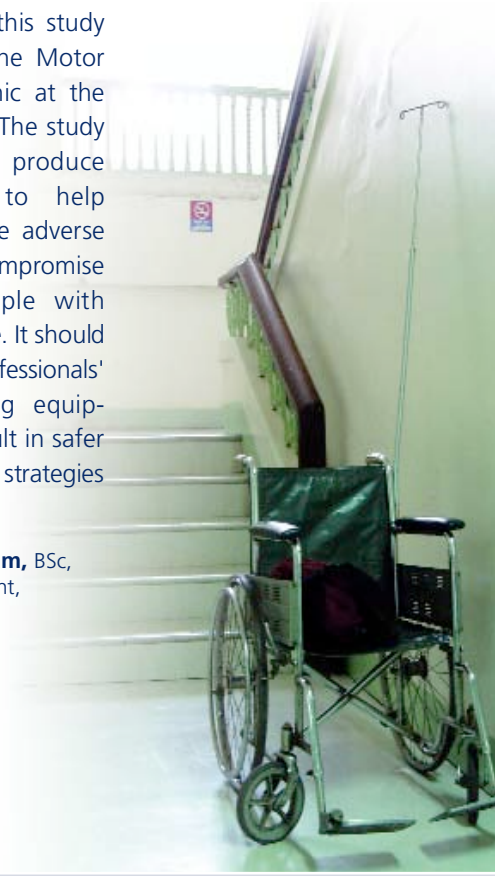
Risk Factors for Falls and Injuries Associated with Physical Assistive Equipment Use Among People with Motor Neuron Diseases in Manitoba

Alice Kam, a second-year medical student at the University of Manitoba, is investigating whether there are risk factors that can lead to falls and injuries for people who use assistive equipment – such as grab bars, walkers, wheelchairs, commodes and raised toilet seats – to facilitate their daily living activities. Kam is administering a written survey and interviewing people with motor neuron diseases, including Amyotrophic Lateral Sclerosis (ALS) or Kennedy's Disease, who use these devices.

The objective is to determine whether there are risk factors, such as a change in a person's physical needs, faulty design, or inappropriate use of the equipment, that can lead to falls and injuries. These falls and injuries may result in a loss of independence and functioning, a chronic fear of falling, as well as restrict activity and cause further physical deterioration.

The participants in this study are patients from the Motor Neuron Disease Clinic at the Deer Lodge Centre. The study is designed to produce recommendations to help eliminate or mitigate adverse events that can compromise safety among people with motor neuron disease. It should also help increase professionals' awareness regarding equipment safety and result in safer equipment utilization strategies for patients.

Investigator: **Alice Kam,** BSc, BMR(OT), Medical Student, University of Manitoba



Research and Projects from Within:
Centre Staff Strive to Add to Knowledge Base

Riverview Health Centre staff members are committed to resolving the issues, problems and concerns that confront them in their day-to-day work. On the front line of health care delivery, they are best able to identify areas that may require further investigation and discovery. While the projects described in this section are not externally funded research studies, the staff members involved are using established research methods, procedures and approaches to delve into the issues of concern. They are included in this publication because they shed light on three important aspects of patient care: assessing care needs of patients, assessing pain management in the communicatively and cognitively impaired, and influencing policy with regards to the safe lifting and transferring of bariatric patients. Recommendations from these three projects will improve the quality of life and care for patients both at Riverview Health Centre and elsewhere.

Shirley Ladd

Bariatric Systematic Review

Modified techniques and specialized equipment are needed when lifting, transferring and moving bariatric patients. In this project, literature and product reviews were completed in order to inform the policy regarding safe, dignified care for persons of size.

Emerging from the project was a definition of a bariatric patient based on a combination of weight, height and distribution of weight. As well, the literature review enabled the researchers to identify modifications required when lifting and transferring persons of size. The product review resulted in a compilation of information about the products available, as well as vendors, contact numbers and websites.

Riverview Health Centre has already used this information in the purchase of lifting and transferring equipment. Also, the work involved in the project has formed the basis for procedures and policies developed by both Riverview Health Centre and the Winnipeg Regional Hospital Authority regarding the safe lifting and transferring of bariatric patients.

Investigators: **Shirley Ladd,** BPT, Riverview Health Centre, **Lynda Wolf,** BOT(C), OTM, Riverview Health Centre, **Kerry-Anne Tyrell,** MOT (Student), School of Occupational Therapy, University of Manitoba

Pat Yamada

Examination of RAI Data: Relationship Between Manitoba Health Dependency Assessment Care Levels & the RAI 2.0 Resource Utilization Groups

When patients are admitted to Riverview Health Centre, an assessment takes place to identify their care needs. Until recently, a tool known as the Manitoba Health Dependency Assessment Care Levels was used. A subjective measure, this tool assesses care needs based on six parameters of function – such as ambulation and the ability to dress themselves – to identify the level of independence patients exhibit when performing these basic functions.

Patients admitted to Riverview Health Centre undergo an assessment to identify their care needs.

In 2004, the Winnipeg Regional Health Authority adopted the use of a new assessment tool called the Minimum Data Set – Residential Assessment Instrument (MDS–RAI). Internationally used and validated, the MDS–RAI is a software program with applications that are used to objectively identify patients' problem areas, develop care plans and enhance the understanding of care outcomes.

This project compares the relationship between the results found in both of these tools to ensure that the MDS-RAI validly and reliably assesses the care needs of the patients. Currently, the findings are being reviewed, and any recommendations for change will be presented in a future report.

Investigators: **Pat Yamada,** RN, MSN, Riverview Health Centre, **Audrey Blandford,** BA, Centre on Aging, **Lori Mitchell,** MA, Centre on Aging, **Verena Menec,** PhD, Centre on Aging

Carole Hamel

Comparison of Pain Assessment Tools in the Cognitively and Communicatively Impaired at Riverview Health Centre

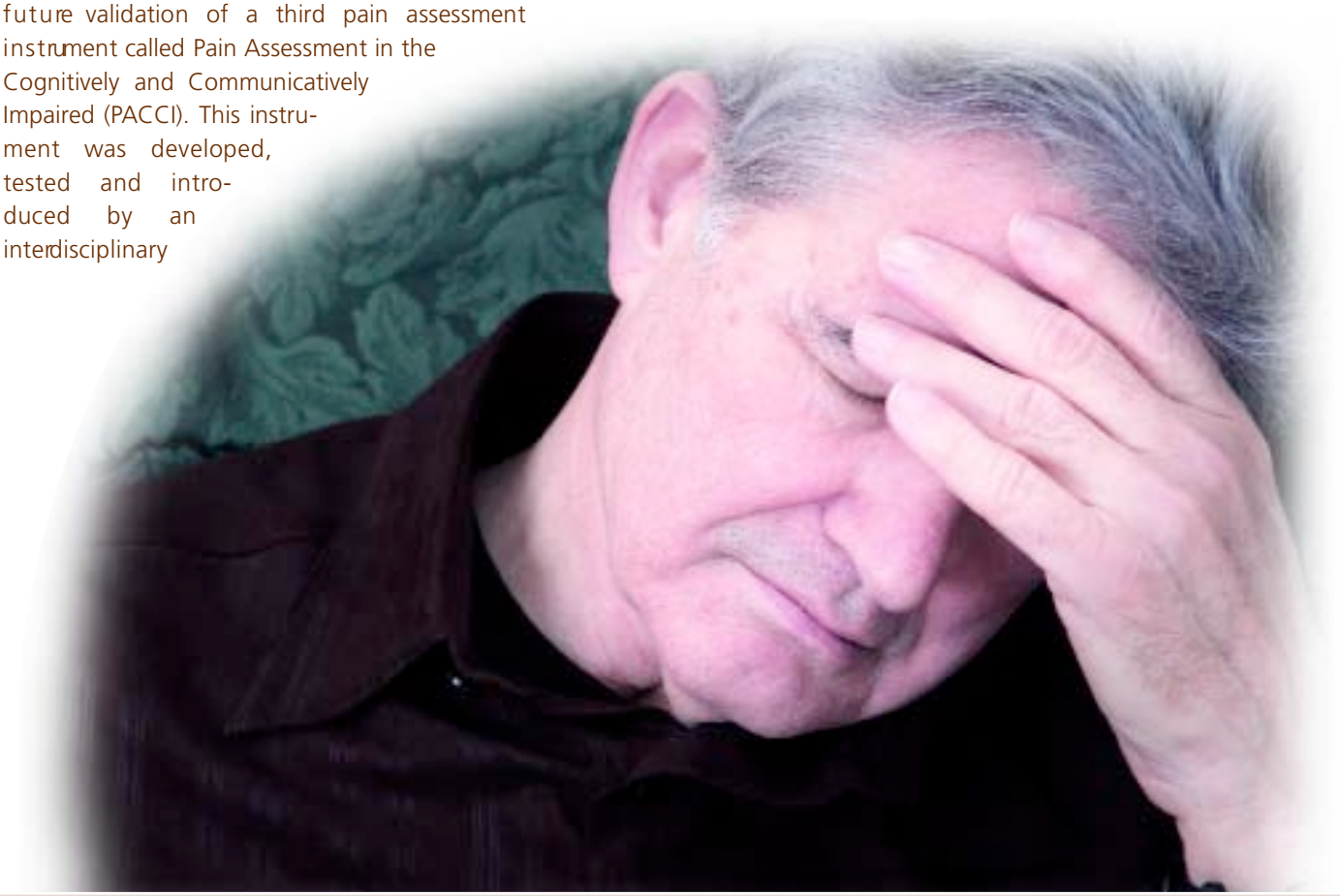
Accurately assessing pain in cognitively and communicatively impaired patients is important because these individuals may have limited ability to verbally describe their pain. The Winnipeg Regional Health Authority (WRHA) has sanctioned two instruments, both validated through research, for assessing pain in this group of patients, and these instruments are available for use by health care practitioners.

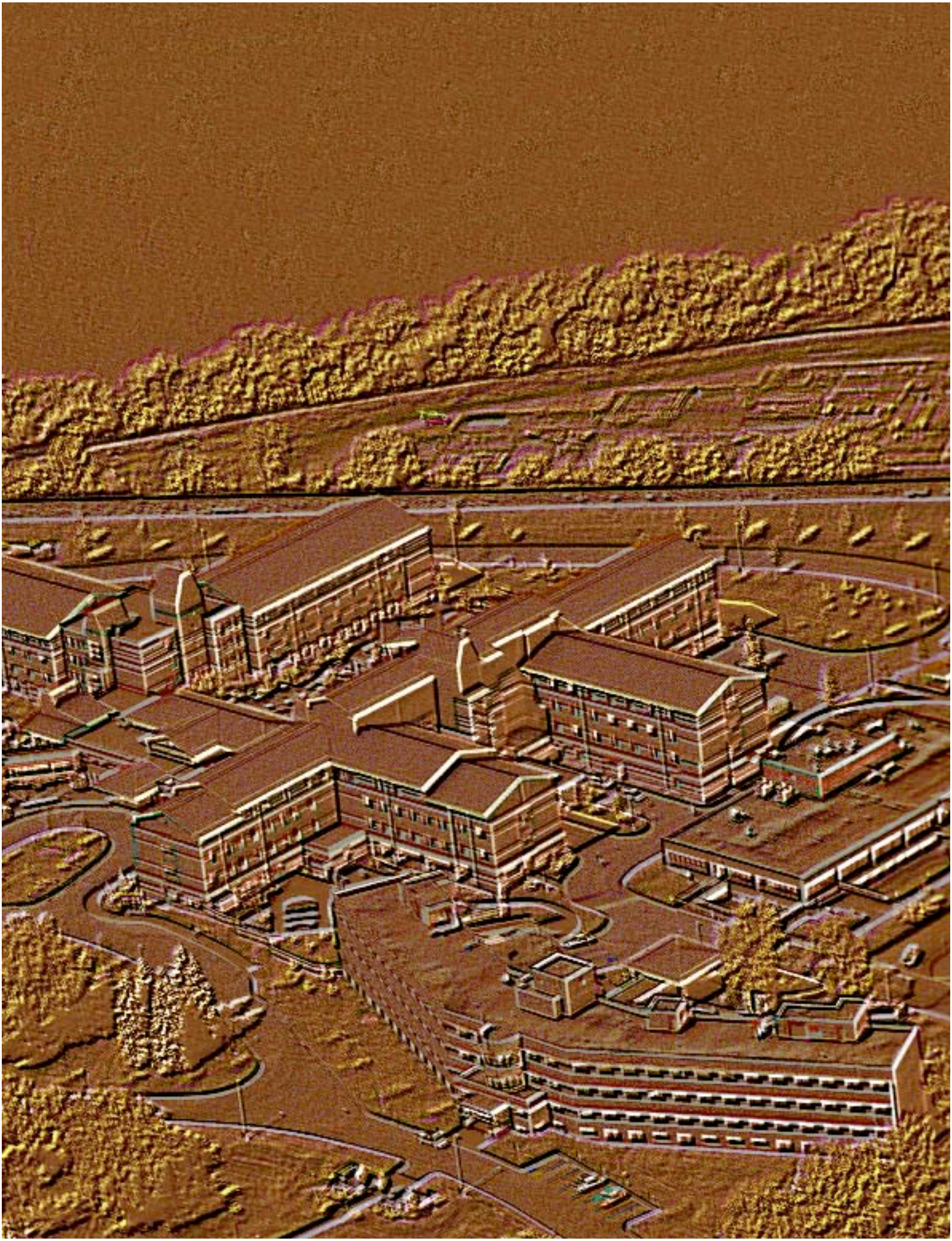
Cognitively impaired individuals may have limited ability to verbally describe their pain.

The purpose of this project is to establish a case for future validation of a third pain assessment instrument called Pain Assessment in the Cognitively and Communicatively Impaired (PACCI). This instrument was developed, tested and introduced by an interdisciplinary team at Riverview Health Centre in an effort to improve pain assessment practices for this patient group. PACCI uses a checklist of behavioural indicators of pain – such as fidgeting, pacing and wincing with movement – which is completed by health care staff.

In this project, 30 residents from the special care unit were assessed for pain by health care staff over all shifts in a one week period using PACCI and one of the two WRHA-sanctioned instruments. The two tests will be compared on effectiveness, sensitivity, interrater reliability and ease of use. If results indicate that PACCI is as effective as the WRHA-sanctioned tool, the stage will be set for a future study to validate the PACCI. This would provide health care staff with a third option for assessing pain in those patients who are unable to verbalize. This work helps to enhance pain assessment strategies and ultimately improve pain treatment for these patients.

Investigators: **Carole Hamel,** RN, MN, Riverview Health Centre, **Lynette Badenhorst,** MB, CHB, Riverview Health Centre, **Pamela Bager,** MSc, SLP(C), Riverview Health Centre, **Laurie Lavis Cerqueti,** BA, RN, BN, MSA, Riverview Health Centre, **Lynda Wolf,** BOT(C), OTM, Riverview Health Centre





NORMAN R. KASIAN
PRESIDENT & CEO

Riverview Health Centre has a long history of active participation in academic research activities. While our forebears taught us how to control the contagious diseases common at the turn of the century, today's researchers use their talents to address the challenges of life in the 21st Century. These include investigating elements that will enhance the quality of life of individuals requiring long term care and rehabilitation services.

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