FOR AS LONG AS THE HIPPOCRATIC OATH HAS
GUIDED DOCTORS IN THE PRACTICE OF MEDICINE,
SCIENCE HAS BEEN INVOLVED IN UNDERSTANDING
HOW DISEASES CAN BE FOUGHT AND THE
accidents and frailties of living can be rehabilitated.

We have come a long way from the days of Hippocrates, who believed
much of the human condition was controlled by too much or too little
body fluids (blood, yellow bile, black bile and phlegm). Quality health care is
DEPENDENT UPON THE BEST EVIDENCE that can be provided by scientific
investigations.

Riverview Research Centre has been ACTIVELY INVOLVED in the promotion,
support and development of research that can lead to BETTER CARE for
residents and patients at the Centre and elsewhere. Some research projects are
of short duration and conducted only at Riverview, while others may last many
years and involve investigators and health care facilities in other provinces and
countries. RESEARCH TEAMS may include academic members at universities,
graduate and medical students, as well as Riverview staff. Often, teams include
both academic investigators and staff, who share their KNOWLEDGE, SKILLS
AND INTERESTS in specific health care issues.

At any given time, there are more than a dozen projects at various stages of
investigation that may involve individuals in any of the SPECIALTY AREAS
AT RIVERVIEW - palliative care, the Dementia and Alzheimer's unit, stroke
or brain injury rehabilitation, as well as personal care, Day Hospital and
community clinics.

Riverview Health Centre holds an ANNUAL RESEARCH COMPETITION to
financially support projects, and it regularly hosts educational events to
connect practitioners with researchers who share the clinical implications of
completed research. Final reports of projects are circulated widely to staff
members, even before results have been published in journals.

In this issue of Health Views, we share eight recently completed or currently
ongoing research projects at Riverview Health Centre. From face recognition
in people with brain injuries to technology in palliative care – and much more
– these projects reveal the varied topics our researchers...

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For information on research at Riverview Health Centre, contact Dr. John Bond at 204-478-6215 or jbond@rhc.mb.ca
Thinking of words that start with "families.

Dr. Zahra Moussavi is the Director of the Biomedical Engineering Program at the University of Manitoba, and she conducts her research on neurological disorders – including Alzheimer’s disease – at Riverview Research Centre.

The procedure she is testing to treat this disease is called REPETITIVE TRANSCRANIAL MAGNETIC STIMULATION (rTMS) – which involves using a magnetic coil to induce an electric field in the brain.

Not just any brain cells are targeted. rTMS focuses on the dorsolateral prefrontal cortex – the area of the brain that is involved in decision-making, orientation and the formation of short and long-term memory. It is connected to almost every other part of the brain and is the very area affected by Alzheimer’s disease.

“With rTMS, a WEAK ELECTRICAL CURRENT is induced in the brain to activate neurons in the targeted area,” says Dr. Moussavi.

She and her colleagues ran a pilot study that gleaned promising results about the effect of rTMS as a treatment of Alzheimer’s disease. Volunteers in the study received the treatment during 13 sessions over four weeks. Several of the volunteers then participated in follow up sessions every three months for up to a year and a half.

BIGGER STUDY APPROVED

The pilot study revealed that the increased activity in brain cells from rTMS EFFECTIVELY COUNTERACTS THE DECLINE IN BRAIN FUNCTION of people in the early to moderate stages of Alzheimer’s disease. To prove this hypothesis, Dr. Moussavi is leading an international and multi-centre study with the same protocol for those in the early to moderate stages of Alzheimer’s disease will be run within the next four years, with the same protocol.

hypothesis, Dr. Moussavi is leading an international and multi-centre study with participants diagnosed with Alzheimer’s disease in the early to moderate stages will be recruited to receive rTMS treatment five days a week for four weeks. This major study (that’s a hint for the quiz on page B) has been funded by Weston Brain Institute. Patient recruitment is expected to start in November 2016, with the study running until October, 2020.

rTMS is a NON-INVASIVE, PAINLESS AND HARLESS NONDRUG TREATMENT that is easy and fast to administer. Patients tolerate it well, and there have been no reports of any lasting side-effects,” says Dr. Moussavi.

rTMS has the potential to make a big difference in the lives of people in the early to moderate stages of Alzheimer’s disease.

INVESTIGATORS:

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Colleen Milliken, PhD, CPsych, Clinical Health Psychology, University of Manitoba
Xiaoli Wang, MSc (Mathematics), PhD (Statistics), Department of Statistics, University of Manitoba
Behzad Mansouri MD, PhD, FRCPC, Department of Internal Medicine (Neurology), University of Manitoba

DOES rTMS WORK?

To find out whether or not this mild electrical current to the brain has a positive effect on people with Alzheimer’s disease, the researchers assessed participants’ memory, attention, language and other cognitive functions using tests that included such exercises as:

• connecting a series of numbers and letters in ascending and alternating order
• repeating a series of numbers, forwards and backwards
• saying as many words as possible that start with a certain letter in one minute
• finding an association between two words, such as “bicycle” and “train”

THE RESULTS SHOWED:

• as long as the participants were involved in rTMS, THEY DID NOT DECLINE
• participants in the early stages of Alzheimer’s disease IMPROVED
• after the pilot finished and the treatment was no longer given, ALL PARTICIPANTS DECLINED, revealing that ongoing treatment with rTMS is necessary.

HEALTH VIEWS is published regularly by Riverview Health Centre to provide information about the Centre’s programs, initiatives and activities to both the broader community and to its staff and patients.

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This is the kind of situation that can occur when someone has a brain injury. Often, individuals with brain injury have problems recognizing facial expressions, such as anger, hurt, fear, disgust or surprise. They don’t respond in an appropriate manner, and this leads to problems in their interactions with others.

“Because of this, people with brain injury often lose relationships and have trouble making friends,” says Dr. Jennifer Salter, a physician on the Brain Injury Unit at Riverview Health Centre. “They end up depressed, anxious and alone in the world.” But it’s possible that those with brain injury may be able to work around this problem. That’s because brain studies show that they actually may be capable of perceiving facial expressions; it’s an inability to interpret them that poses problems.

With this premise in mind, Dr. Salter and her co-investigator decided to run a study to find out if people with brain injury might be able to use information in their environment to help them figure out emotions in others, and thereby respond appropriately.

Between May 2016 and November 2017, the investigators will use questionnaires and computer-based tasks to examine the ability of patients with brain injury to identify facial expressions and body language in others, as well as their sensitivity to background information.

This study is funded through Riverview Health Centre.

ULTIMATELY, THE GOAL IS TO FIND A WAY TO TRAIN PEOPLE WITH BRAIN INJURY TO USE CUES IN THE ENVIRONMENT TO HELP THEM IDENTIFY WHAT OTHERS ARE FEELING.

Dr. Jennifer Salter

This study, which was completed in 2016, received funding from the Heart and Stroke Foundation of Canada.
Keeping in touch with family, friends and colleagues is something most of us take for granted. Even if we live far away, we can turn on our computers, iPods, tablets or cell phones and – voila! – access to the world is at our fingertips.

But if you or a loved one are hospitalized with a terminal illness, contact with the outside world will ebb, both for the sick person and for the family members and friends who may spend hours at the bedside.

The reality is that LIVES ARE PUT ON HOLD, and this causes stress. The hospitalized person may be too ill to do much, but the desire to communicate with others may arise during moments of increased energy. Visitors often FACE MULTIPLE PRESSURES. Even when there is a great desire and commitment to support the sick person, work and home responsibilities will inevitably demand attention.

Identifying Possible Solutions

Several researchers, led by Dr. Harvey Max Chochinov of the Manitoba Palliative Care Research Unit at Cancer Care Manitoba, wanted to find a solution to this problem. Dr. Chochinov and his four co-researchers ran a study called “KIT” – short for KEEP IN TOUCH – on Riverview Health Centre’s Palliative Care Unit. The study sought to look at the possibility of making internet-based communication and information tools – laptops, iPods, cell phones, tablets – available in patient rooms on the Palliative Care Unit.

Who Thinks Technology Should be Available in Patient Rooms?

KIT was conducted in two phases. The FIRST PHASE gathered advice and opinions from four key groups: patients and their families, technology experts, direct health care staff – such as nurses and aides – and administrators. This phase revealed that these groups WHOLE-HEARTEDLY APPROVED OF THE CONCEPT and felt that any anticipated glitches were things that could easily be ironed out.

In the SECOND PHASE, the researchers provided the opportunity for patients and visitors to use technology. To do this, they loaned an iPad or a laptop computer with temporary internet access to 13 patients and 38 family members for two weeks. (People could use their own devices if they chose.) By doing this, Dr. Chochinov and his co-investigators were able to find out how people used the technology and what they thought about it. Fourteen health care staff were also asked to observe patients’ and families’ responses and provide feedback.

CHECK OUT THE SIDEBAR AT RIGHT to see the benefits for patients, family members and staff.

What patients and families said:

“I was able to send my siblings emails detailing our father’s condition.”

“We talked to family members in the USA and Newfoundland so we could let them be part of a final goodbye.”

“I kept in touch with the kids to let them know what needed to be done and what the plans were for the day.”

BENEFITS OF INTERNET COMMUNICATION AT THE BEDSIDE

Patients and visitors can:

KEEP IN TOUCH with family, friends and co-workers through:

• email
• social media
• live video
• live audio calls

BE ENTERTAINED by activities such as:

• surfing the internet
• playing a game
• doing a puzzle
• reading (newspaper, books, etc.)
• watching TV or a movie
• shopping online

RESEARCHING AND DOING TASKS:

• looking up topics of interest
• doing online banking
• keeping in touch with work
People who work in construction are said to do physical labour. They use their muscles to lift and carry equipment, tools and supplies. At the end of the day, they're often physically exhausted.

What about those people who work in jobs that require them to pretend to feel a certain way, when they ACTUALLY DON’T FEEL THAT WAY? Is that not a form of “labour?”

Dr. Laura Funk thinks so. She calls it “emotional labour,” and suggests that health care workers are subject to it. Instead of expending physical energy, to get a job done, they use emotional energy to appropriately interact with their patients. And it can leave them pretty tired at the end of the day.

Dr. Funk and her colleagues did a study to help provide understanding of how nurses and health care aides stay friendly, cheerful, calm and empathic, even if a patient is yelling at them because their tea is cold.

In that case, a nurse might want to say: “YOU’RE NOTHING BUT A BIG COMPLAINER! I wouldn’t help you if you were the last person on earth!” Instead, the response has to be, “OH DEAR, THAT MUST NOT TASTE VERY GOOD. Let me get you another cup.”

In their interviews with staff, the investigators discovered that it does, indeed, take work to do this.

Even if patients (or family members) are kind and respectful, it can be especially challenging when the work load is heavy or if the staff member is undergoing stress in their personal life.

Controlling emotions may be a personal quality, or it may be something that develops with age and experience. However, there is potential to provide training to help those who aren’t as good at it.

Everything’s Under Control!

Controlling emotions – whether forcing the positive or suppressing the negative – isn’t easy. From the information gathered in this investigation, here are some things that could be done to help staff who may become drained from the effort:

- Make sure the work environment is supportive.
- Have rituals to help staff deal with sadness when a patient dies.
- Provide inservices to give staff skills in dealing with negative feelings.
- Ditch the old adage, “showing your emotions is a weakness.” Instead, support people who need help to deal with the emotions they feel – but can’t show – in the course of their work.

Feeling It!

The study showed that, while health care staff often feel appreciated by the patients and families they care for, there are times when they feel negative emotions, which they must somehow manage and cover up. These feelings include:

- anger
- frustration
- sadness
- helplessness
- distress
- fear

It isn’t easy to present an understanding, patient and calm front in the face of these emotions. Staff have to know how to:

- listen
- be sensitive to others’ needs
- use an appropriate tone of voice
- use humour and praise
- be able to assess patients’ emotions

Putting the Two Together

Here’s what Dr. Bruning and her co-investigator, Anastasia Sizykh, discovered:

- Surface acting was associated with burnout.
- Deep acting was associated with personal accomplishment.
- Nurses who were emotionally stable and conscientious were less apt to be emotionally exhausted.
- Nurses who were agreeable and conscientious didn’t experience as much depersonalization.
- Those nurses who were extraverted, open to experience and conscientious were more likely to have an increased sense of personal accomplishment.

What is Emotional Labour?

As the story above indicates, emotional labour happens when staff members must portray themselves in a manner that is contrary to the way they feel. They can do this by:

- Surface Acting – displaying behaviour that is appropriate even though it is inconsistent with their feelings.
- Deep Acting – empathizing with the patient’s feelings and thereby having a sense of what they feel, so the acting comes more from the heart.

Personality Traits

The researchers examined FIVE DIFFERENT PERSONALITY TRAITS in the nurses: emotional stability, extraversion, openness to experience, agreeableness and conscientiousness.
In Memory of donors can be made to Riverview Health Centre Foundation as memorial gifts, in honor of or to commemorate special occasions and important milestones. Gifts listed below were received between 1 July 2014 and 31 August 2014, and individuals being acknowledged through a donation in memory of donors’ names follow.
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Dr. Hooper is co-director at the Neuromuscular and Electrodiagnostic (EMG) Clinic at Riverview Health Centre. He and his colleagues use nerve conduction studies to diagnose diseases of the nerves and muscles. One common disorder is CARPAL TUNNEL SYNDROME (CTS), which affects men and women of all ages.

The tricky thing about CTS is that nerve conduction studies can indicate that the disease is present when, in fact, it is not the cause of the patient’s symptoms. "A patient may complain about pain in their right wrist, and testing may show the existence of CTS in that wrist, but it may be that the evidence of CTS is from a previous bout of the disease," explains Dr. Hooper. "The pain may actually be caused by a number of other issues, such as tendonitis or arthritis."

Studies reveal that 75 percent of the time, the hand that is worse for symptoms – according to patient reports – is also the hand that shows the more severe CTS in nerve conduction studies. But in the other 25 percent, the hand that is most symptomatic for the patient is NOT the hand with the worse CTS.

What this means is that, 25 percent of the time, THERE IS A MISMATCH between the patient’s report of pain and the test results. CLEARLY, TESTING BOTH HANDS IS VITAL TO ENSURE CORRECT DIAGNOSIS.

Why Support Research at Riverview Health Centre?

• TO FIND TREATMENTS AND CURES FOR DISEASES
• TO MAKE TREATMENTS SAFER FOR PATIENTS
• TO IMPROVE PEOPLE’S QUALITY OF LIFE
• TO ENHANCE PATIENT/ THERAPIST RELATIONSHIPS
• TO MAKE WORKING ENVIRONMENTS PRODUCTIVE AND HEALTHY FOR STAFF

Preventing Misdiagnosis

If an EMG clinic does not have a policy to check both hands (like Dr. Hooper’s clinic routinely does), there is a POTENTIAL FOR AN UNNECESSARY OPERATION to be ordered on the symptomatic hand, even though CTS is not the cause.

Dr. Hooper and his colleagues want to make testing of both hands standard procedure in all EMG clinics. To promote this, they are running a study to establish that – in cases of pure CTS where there are no other causes of the symptoms – nerve conduction studies will match with patients’ symptoms 100 percent of the time.

Demonstrating this will help EMG specialists MAKE ACCURATE DIAGNOSES. If their test results do not predict the worst hand (according to patients’ reported symptoms), they will be alerted to the possibility of OTHER CONDITIONS that may be CAUSING THE SYMPTOMS.

Riverview’s EMG Clinic is the source of research subjects. The study started in fall 2015 and will continue until 200 participants are recruited.

“This is research that matters because the results will potentially have a positive impact on patient safety in all EMG clinics,” says Dr. Hooper.

Investigators from the Neuromuscular and Electrodiagnostic Clinic, Riverview Health Centre:

Davyd Hooper, MD, FRCPC, Dip. CSCN, Dip. ABEM;
Dawn Barrett, RN, BN, GNC, CRN;
Tamara Dykstra, BA (Advanced), RT (EMG);
Daryl Perry, MD, FRCP, Dip. CSCN, Dip. ABEM;
Sepideh Pooyania, MD, FRCP, Jennifer Salter, MSc, MD, FRCP, Dip. CSON

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I/We would like to learn more about how to support Riverview Health Centre.

Tax receipts will be issued for donations of $20 or more.

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• TO MAKE WORKING ENVIRONMENTS PRODUCTIVE AND HEALTHY FOR STAFF

Please help us to help researchers at Riverview accomplish their important work.

Fill out the donation form below and mail it today in the enclosed envelope.
Photovoice: Seeing Through a New Lens

THOUGH IT MAY BE Cliché, THERE IS A LOT OF TRUTH TO THE OLD ADAGE:
A picture is worth a thousand words.

Dr. Jacquie Ripat is an occupational therapist (OT) and associate professor at the University of Manitoba. Over the past couple of years, she has been studying a technique called Photovoice and how OTs can use it with people who have had a stroke or brain injury.

With Photovoice, clients take pictures of things that are important to them, then have an opportunity to explain to their OT why they chose the subjects of their photos. This technique allows clients to open up about their lives. Through the process, OTs get a better sense of who their clients are as individuals.

For example, a client who is a musician may want to share pictures of his musical instruments. Such photos can be useful in enhancing the overall client/OT relationship. They give the OT a different perspective, allowing them to get to know their clients through a different lens. The exercise also provides a chance for people affected by a stroke or brain injury to describe themselves outside of a hospital setting.

Client-centred Practice

The theory is that Photovoice will enhance a client-centred approach to care. With this approach, the therapist focuses on showing respect for a person’s inherent worth while working in partnership to achieve his or her goals.

“The idea behind Photovoice is to empower people,” says Ripat.

Photovoice focuses on showing respect for a person’s inherent worth by the University of Manitoba Health Research Ethics Board.

If you would like to participate in this research or have questions, please call Paula Black, Research Nurse Coordinator, at 204-787-4932 or email paula.black@umanitoba.ca. This research has been approved by the University of Manitoba Health Research Ethics Board.

WE WANT YOU!

We are looking for volunteers in Manitoba who:
• are 60 years of age or older
• can read/write/understand English
• have a spouse die three months ago or longer
• have a spouse die with advanced dementia

We are looking for individuals who:
• had a spouse die with advanced dementia or longer
• had a spouse die three months ago
• can read/write/understand English
• are 60 years of age or older

We are looking for volunteers in Manitoba to take part in a study to test a self-administered writing tool for bereavement after caring for a spouse with dementia.

As a participant, you will be asked to take part in three interviews, each of which will last about 60 minutes. You will also be asked to use and provide feedback about the bereavement tool.

In appreciation, you will receive a gift card.

If you don’t have to be a Millionaire to support research.

The truth is...anyone can! The research projects presented in this issue of Health Views vary widely in cost, from zero to millions.

We challenge you to match the letter of the research projects to their costs!

<table>
<thead>
<tr>
<th>PROJECT</th>
<th>COST</th>
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<tr>
<td>A Treatment for Alzheimer’s</td>
<td>$48,000</td>
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<td>B Face Recognition in Brain Injury</td>
<td>$800,000</td>
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<tr>
<td>C Wii for Stroke Patients</td>
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<td>D Keeping in Touch in Palliative Care</td>
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<td>E Emotional Labour in Care Staff</td>
<td>$12,600</td>
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<td>F Burnout in Nurses</td>
<td>$1.7 million</td>
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<td>G Carpal Tunnel Syndrome</td>
<td>$42,000</td>
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<tr>
<td>H Telling a Story with Photovoice</td>
<td>$90</td>
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DO YOU THINK YOU ANSWERED CORRECTLY?

Find out by mailing the donation form on the reverse using the enclosed envelope.