

RESEARCH AND INNOVATION 2017/2018

ANNUAL REPORT

The face
and pace
of healthcare
research
and innovation





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Research and innovation are related—and distinct

Innovation can be a new idea, or an existing idea used in a new way. Or it can be a different or better way to solve an old problem.

Research is about systematically gathering evidence to tackle a problem.

Together, research and innovation discover and advance healthcare practices and patient outcomes.

The importance of research and innovation



They help keep Albertans healthy and independent



They improve the quality and safety of care for Albertans



They provide access to potentially life-changing treatments



They update or replace outdated treatments and technologies



They take good ideas and turn them into something even better



They shorten the pathways to diagnosis and treatment



They achieve more with the same or fewer resources



They improve conditions for the AHS workforce and other Albertans



They encourage highly qualified professionals to join AHS



This special section appeared in the Winter 2019 edition of *Apple* magazine. Thank you to the Innovation and Research Management, System Innovations and Programs advisory team: Greg Harris, Nancy Fraser, Christiane Job McIntosh, Tammy Mah-Fraser, Janice Paskey, Lindsay Prazak, Anna Pujadas Botey, Heather Sharpe, Patty Wickson and Becky Wong



Research and innovation are in every corner of healthcare in Alberta

Photo: mediaphotos

WRITTEN BY MARC LEDUC

When you go to the hospital or visit a clinic, the latest healthcare research project or innovation might not be top of mind.

But they're a big part of what we do at Alberta Health Services. AHS staff and physicians are constantly working to improve healthcare and wellness opportunities for all Albertans, at every age and stage, and in every corner of the province.

Exoskeletons, virtual reality, cancer research, mental health, smartphone technology—the areas of research are vast and fascinating, with far-reaching effects.

That's why my team—Innovation and Research Management within the System Innovations and Programs portfolio at AHS—considers these advances a priority.

These advances are possible thanks to the help from our many partners, educational institutions, foundations and patients.

With these stories in mind, we teamed with *Apple* this issue to showcase our efforts to continually improve healthcare for Albertans. We invite you to dive in and find out more about The Face and Pace of Healthcare Research and Innovation, starting on page 4. | **a**



Marc Leduc is the senior provincial director of Innovation and Research Management, System Innovations and Programs at AHS.



Trevor Wilmer was part of a Thrive Centre study measuring how exercise affects cancer treatment. Read his story on page 24.

Photo by Ewan Nicholson

The face and pace of healthcare research and innovation

Bright new ways that are improving Albertans' health

WRITTEN BY THE APPLE TEAM

Trevor Willmer was diagnosed with cancer five years ago.

Now Willmer, who shares more of his story on p. 24, is thriving. He is just one of tens of thousands of people who have benefited from research and innovation at Alberta Health Services.

Behind every door and around every corner at AHS, people are finding bright new ways to improve healthcare for all Albertans.

"They're asking questions about what we do," says Dr. Kathryn Todd, vice president of System Innovations and Programs at AHS. "Then they're finding ways to do it even better."

That means many things: searching the world for the best new software, treatments and technology—or

developing it at home when we can't find what we need. It means bringing top-quality healthcare to cities and rural regions. And it means putting patients and families at the centre of care. This includes bringing Indigenous cultural beliefs into healthcare.

For these reasons and more, AHS was recognized as one of the most integrated health systems in the world. It ranked in the top five out of more than 200 entries at the 18th International Congress on Integrated Care in May 2018 in Utrecht, Netherlands.

The award recognizes the province's innovative healthcare structure, which brings together acute care, continuing care, home care, public health, addictions and mental health, emergency medical

services and cancer care under one organization: AHS.

Of course, research and innovation are always about teamwork. Many AHS innovations only exist because of the help and expertise of others. "The knowledge, skills and expertise of our funders and partners are essential," says Marc Leduc, senior provincial director of Innovation and Research Management, System Innovation and Programs at AHS. "We benefit from our partnerships and networks with Alberta Health, Alberta Innovates, post-secondary institutions, other health systems and industry."



Together, we do amazing things every day

Research and innovation are at the heart of improving healthcare for Albertans. Learn more about us at ahs.ca.



**Alberta Health
Services**

Healthy Albertans.
Healthy Communities
Together.

How technology can help

Tracking patient records

An Alberta doctor has invented software to replace whiteboards in one Alberta Health Services hospital.

Dr. Vince DiNinno works at the Medicine Hat Regional Hospital. Four years ago, he began developing healthcare software to use on Apple iPads. The software, named eRounds, replaces whiteboards, the big magnetic boards that healthcare workers use to track daily patient plans such as catheter removals.

The whiteboards were time-consuming, says DiNinno, who received a Quality Innovation grant from AHS for eRounds. "Patients can change rooms, and then you have to reorganize all the magnets. It's quite laborious."

DiNinno, whose hobby is computer programming, thought an electronic device could simplify things. In 2015, he worked with the hospital's surgery team to create a useful electronic program.

Now the pilot program is used by nearly 100 healthcare workers in Medicine Hat.

To protect privacy, each patient's eRounds records vanish when they go home.

— Shelley Boettcher

Connecting with technology

New voice-activated smart-home technology is helping Albertans connect with Alberta Health Services.

In 2017, AHS became Canada's first public health agency to offer information on Amazon's Alexa, followed by a similar Google Assistant system. The technology lets users ask for estimated emergency department wait times (where available), as well as AHS news. It's like the USS Enterprise computer: you ask and it answers.

And in November 2018, AHS extended its offerings for Alexa and Google Home. Now you can ask for AHS influenza immunization clinic information. Just say, "Alexa, ask Alberta Health Services for flu shots" or "Hey Google, ask Alberta Health Services for flu shots."

"We want to give Albertans real-time information they can use to manage their health," says Kass Rafih, senior provincial director of AHS Innovation and Digital Solutions. "This technology is a creative new way we can achieve that."

AHS will continue to expand its smart-home lineup, including making similar information available on the recently released HomePod products.

To learn more, visit ahs.ca/alexa or ahs.ca/google. — SB

3D printer making lives better

The Alberta Children's Hospital launched the kidSIM 3D Printing Challenge in October 2018. The pilot project called for ideas on how to use 3D printers to help patients. "What could we print that would make their life better?" asked Dr. Vince Grant, the project's director.

The top three ideas will be printed in early 2019. The Alberta Children's Hospital Foundation is funding the initiative, which costs \$80,000. — SB



"We want to give Albertans real-time information they can use to manage their health," says Kass Rafih, senior provincial director of AHS Innovation and Digital Solutions.

HOW TECHNOLOGY CAN HELP

The Ekso program at Edmonton's Glenrose Rehabilitation Hospital is helping people such as Pete Letkeman, left, walk again. Physical therapist Karen Benterud is behind Letkeman; therapy assistant Mel Durocher is on the right.

Photo by
Dave Olecko



Treatment a step up for people with spinal cord damage

WRITTEN BY DEBBY WALDMAN

Pete Letkeman broke his neck in 2017. The injury pinched his spinal cord and disrupted signals between his brain and his body below his shoulders. He could move but he had no control over how he moved.

Then he was referred to the exoskeleton program at Edmonton's Glenrose Rehabilitation Hospital.

The exoskeleton, also known as the Ekso, helps people with nerve damage learn to walk again. It has motors and sensors at the hips and knees. The user's feet rest on plates. If the user does not move their feet properly or transfer weight properly from one foot to the other, the Ekso won't let them walk.

For Letkeman's first session in February 2018, physiotherapist Karen Benterud programmed the Ekso for maximum assistance. Letkeman felt like he might tip over. "My brain thought, 'I'm leaning so far to my right that I'm going to fall,'" he says.

However, neither his wife, Tana Letkeman, nor Benterud were worried. "He was only tilting maybe three degrees to the right," Tana says.

A half hour into the 45-minute session, Letkeman, 51, began to get the hang of things. The second session went even better.

Soon he looked forward to being strapped into the Ekso. "I could start to tell this was a good thing," he says. "I was starting to walk and it was more of a normal stride. Before the Ekso, I could walk, but it was pretty pathetic."

Letkeman lives in Devon, 26 km southwest of Edmonton.

He is one of 126 Albertans who have benefited from the Ekso, which the Glenrose Rehabilitation Hospital Foundation bought for \$100,000 four years ago. Similar exoskeletons are used by other rehabilitation centres around the world.

"It's a way for people with a neurological condition to achieve their therapy goals in a safe and supportive way," says Kerry Bayless, team lead for physiotherapy for spinal cord injury.

Typically, an Ekso patient has at least 10 sessions lasting from an hour to 90 minutes. Patients also have other forms of therapy, so Bayless is reluctant to give all the credit to the Ekso, but it's clear it makes a significant difference.

It did for Letkeman. His right leg and hip grew stronger. His gait and endurance improved, and he began to trust his balance. "I can take a lot more steps with the exoskeleton than I would without it," Letkeman says. "I'd be much, much farther behind without the Ekso."



Getting better together

Bone marrow transplant program brings hope to Albertans

WRITTEN BY DOUG HORNER

For as long as Revée Agyepong can recall, she wished for a life without sickle cell disease. The 26-year-old Edmonton nurse was diagnosed as a toddler. “I remember it was the first thing I would pray about,” she says. “I just wanted to be cured.”

Sickle cell disease affects about 500 Albertans and somewhere between 5,000 and 7,000 Canadians. People with the genetic disorder have red blood cells that change shape when under stress, such as dehydration. Unlike normal, round and flexible blood cells, the semi-circular sickle-shaped cells get stuck in the body's blood vessels. This can create health complications, including organ damage or acute bone and joint pain. People with the disease have a life expectancy that is significantly reduced by about 25 to 30 years compared to other Canadians without sickle cell disease.

On Nov. 9, 2017, Agyepong became the first adult in Alberta to receive a bone marrow transplant to treat sickle cell disease. Her transplant took place at the Tom Baker Cancer Centre, as part of a collaboration with the Alberta Children's Hospital. She hasn't had sickle cell pain since then.

“I've never gone that long without pain,” she says. “I'm excited to climb mountains and run and do all the things I couldn't do.”

Dr. Greg Guilcher is a pediatric

oncologist and transplant physician. He and his team at the Alberta Children's Hospital Blood and Marrow Transplant Program were recognized with an Alberta Health Services President's Excellence Award in 2018 for bringing this new procedure to the province. (See more on page 35.)

Bone marrow transplant has been a treatment option for sickle cell disease for 30 years, explains Guilcher, but it comes with big health risks. Organ damage, infertility and graft-versus-host disease, when the donor's immune cells react against the host's cells and tissues, are possible outcomes.

In 2014, the National Institutes of Health in the U.S. released a study on a new transplant technique for adults. It has fewer side-effects than the previous treatment. There is minimal organ damage, for instance, and no reported cases of graft-versus-host disease.

The new procedure includes immunosuppressive drugs, a low dose of radiation and no chemotherapy. It also requires a family donor who is a perfect genetic match. This means it's only applicable to 15 to 20 per cent of people with sickle cell disease.

Guilcher and his team were the first to use the new approach for children. So far, 16 youth have had the transplant in Alberta. “They've all been cured without any major complications,” Guilcher says.

The Alberta Children's Hospital Blood and Marrow Transplant Program is now recognized around the world for its success. It is a founding member of the Sickle Transplant Alliance for Research, which includes about 30 healthcare centres in Canada and the U.S. The first two annual meetings were held in Banff, and the next is in Canmore.

They're working on a larger study to validate the results from Guilcher and his team.

A bone marrow transplant can stop the injury to organs caused by sickle cell disease, but it does not reverse damage that's already been done. “The safer we show this to be, then there might be an increasing willingness to consider transplant for those with a match in the family very early, before they even develop any of these complications,” Guilcher says.

➤ FIND OUT MORE

For more information on the new bone marrow transplant services, search myhealth.alberta.ca.

The Sickle Transplant Alliance for Research also has information on the new bone marrow procedure at curesicklenow.org.

To hear more of Revée Agyepong's story, go to ahs.ca and search Fresh Start for Sickle Cell.



I'm excited to
climb mountains
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Revée Agyepong—a registered nurse in the Stollery Children's Hospital's neonatal intensive care unit—was the first adult in Alberta to receive a bone marrow transplant to treat sickle cell disease.

Photo by Laughing Dog Photography

Clearing the line to better care

WRITTEN BY GREG HARRIS

Three nurses at the Alberta Children's Hospital in Calgary have a great idea for improving care for patients with central venous lines.

And they now have the research to back it up, thanks to their work on a project supported by the AHS Research Challenge, a program that helps front-line care teams find solutions to questions that concern them.



The trio—Allison Hunter, Carol Yuen and Shantel Dayment—has shown that when the thin lines of tubing that deliver medicines to the main heart vein become blocked, nurses can often clear the blockage more quickly than if they waited for an attending physician.

Hunter is a clinical nurse specialist and the study's principal investigator.

She says there are safety guidelines for when nurses may step in, but Hunter, Yuen and Dayment found nurses are treating blocked lines less than 50 per cent of the time they could be. The faster a blockage in a central venous line can be cleared, the faster a patient's treatment can resume. Risks such as infection and swelling are reduced.

Since it began in 2016, the Research Challenge has supported 24 teams across the province. Each team receives a mentor, training in research methods and a \$5,000 grant.

"The Research Challenge helps us use evidence more in how we make decisions and improve quality care," says Dr. Kathryn Todd. She is vice president of System Innovations and Programs and co-sponsor of the Research Challenge.

"Our patients benefit when their care providers can take an idea, evaluate it, and then make an informed recommendation about it."

Seeking causes of infection in children

WRITTEN BY DOUG FIRBY

A three-year-old child was rushed to the Alberta Children's Hospital. Her kidneys were shutting down.

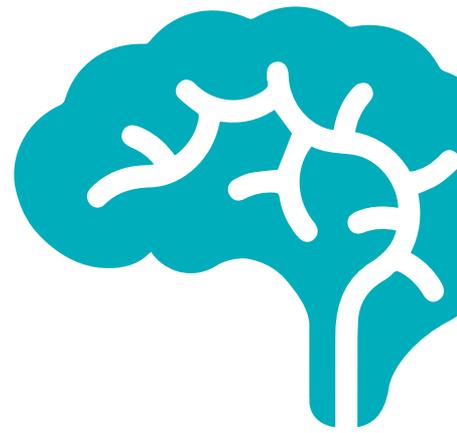
But one of the doctors knew about the work of the Alberta Provincial Pediatric Enteric Infection Team (APPETITE). The team is studying tests that find causes of gut infection in children—including a new device that gives results in less than two hours.

With the help of APPETITE, the doctor found the child had developed a rare and life-threatening form of kidney disease. The diagnosis and care saved the girl's life. She left the hospital 13 days later.

Dr. Stephen Freedman is a pediatric emergency medicine physician at the Alberta Children's Hospital. "There's a high number of children with diarrhea and vomiting that show up in emergency departments—more than 32,000 cases in Alberta in 2014," says Freedman, founder of APPETITE and a member of the hospital's Pediatric Emergency Research Team.

"That is why my team and I are constantly seeking advances to minimize suffering."

APPETITE received a \$5-million grant from Alberta Innovates to study the causes of and approaches to these infections. The team also won a 2018 AHS President's Excellence Award for Outstanding Achievement in Innovation and Research Excellence. (See more on page 35.)



Using light to measure brain damage from concussion

WRITTEN BY JACQUELINE LOUIE

It's hard to identify a concussion or predict recovery.

"We don't know a lot about the actual injury in the brain, and we certainly don't know how to tell if that injury is recovered," says Jeff Dunn, PhD. He is a professor in the University of Calgary's Department of Radiology and director of the Experimental Imaging Centre at the UCalgary's Cumming School of Medicine.

Dunn and his research team have developed an imaging system that uses light to measure brain damage from concussion. Their functional near-infrared spectroscopy (fNIRS) device is a new tool to assess concussion patients.

"We're developing a portable non-invasive technique that is unique because it measures changes in brain activity and regulation of blood flow. It's a method of localizing where changes in brain function have occurred," Dunn says.

Using the device is simple: a patient puts on an elasticized cloth cap containing fibre optics attached to a special machine that records brain activity. The process takes approximately 20 minutes.

Dunn and his team began using the fNIRS technique at the Alberta Children's Hospital. They found it could detect functional changes in some patients with long-term concussion symptoms. They repeated the study on

adults at the Foothills Medical Centre in Calgary.

Working with other Alberta Health Services physicians, Dunn and his team are now testing the device at both hospitals in a larger five-year project. They're studying whether the technique could be used to assess the extent of concussion patients' injuries and track their recovery.

Dunn says the technology would allow better monitoring of patients with concussion. In turn, it would give physicians a more precise, more readily measurable method to follow patient recovery.

This technology would be less expensive than, for example, an MRI or CT scan, says Keith Yeates, PhD. He is one of the study's co-investigators and the UCalgary Department of Psychology professor and head.

"If the potential that it has shown so far proves out in larger studies and ongoing trials, it may give us a useful tool for helping to detect concussion," Yeates says. "This tool might make it

easier to diagnose a concussion and perhaps it will predict how people will do afterward, too."

Yeates also directs the university's Integrated Concussion Research Program, which is supported by the Alberta Children's Hospital Foundation. The group also received a Canadian Institutes of Health Research grant to help fund their research.

At the end of the five-year study, researchers hope they will prove that fNIRS can help detect brain injury and predict its outcomes.

"If this works the way we want it to, it will help guide people in understanding when they can return to their regular activities, and whether the treatments their healthcare providers are using are actually working," Dunn says.

➤ GETTING INVOLVED

Dunn and his team are seeking healthy volunteers of all ages as controls for this study. For information, contact ucalgary.ca/paediatrics_hiccup.



Primary care provider Kelly Brown, left, and advanced care provider Rae-Ann Hanson work with Alberta Health Services stroke ambulance.

Photo by Laughing Dog Photography



Stroke ambulance starts treatment when it can do the most good

WRITTEN BY DOUG FIRBY

The call came in from a health facility hours away from Edmonton's University of Alberta Hospital. A patient was experiencing vertigo—possibly a stroke. If it were a stroke, by the time she could be transferred to the city, millions of her brain cells could be destroyed.

Instead, Canada's only stroke ambulance was dispatched. It intercepted an ambulance racing the patient toward Edmonton. After running a CT scan in the vehicle and examining the patient via video conference, doctors confirmed the woman was having a cerebellar stroke.

She was given clot-busting drugs and her condition started improving within an hour. Today, the woman, in her 50s, is fully recovered.

Alberta's stroke ambulance is the first of its kind in Canada, and the only one in the world focused on rural

patients. The ambulance has a CT scanner, lab equipment, and video and audio capabilities. On board are two paramedics, an emergency nurse, a diagnostic technologist and a physician trainee. There are fewer than two dozen such ambulances in the world.

Dr. Ashfaq Shuaib is the director of the University of Alberta Hospital's stroke program. When he learned about the stroke ambulance idea, he lobbied to have one in Alberta.

He teamed with Dr. Tom Jeerakathil, a neurologist with the Alberta Health Services Cardiovascular Health and Stroke Strategic Clinical Network. They received \$3.2 million for a pilot project from the University Hospital Foundation. Alberta Innovates also contributed.

About 6,500 Albertans have strokes each year. The stroke ambulance serves rural Albertans who live within a couple

of hours of the ambulance's base at the University of Alberta Hospital. This includes communities such as Slave Lake and Vegreville, whose hospitals are not equipped to handle acute strokes.

Time is of the essence to minimize stroke's harm. Stroke victims can lose two million brain cells a minute before treatment is started.

When someone is diagnosed with a potential stroke, they are sent in an ambulance toward Edmonton and the stroke ambulance heads out to meet them midway at a safe rendezvous point. In most cases, patients are assessed and treated on the spot. About two-thirds of patients are diagnosed with a stroke.

Since the program began in 2017, it has been deployed 95 times. Last year, it received the Paramedic Chiefs of Canada Innovative Treatment or Technology award.

GETTING BETTER TOGETHER

George Gardiner and his wife Mary, left, say they are thankful for the support of Fracture Liaison Service nurse Bev Bowles, right.

Photo by Heather Kipling



One-on-one help after a hip fracture

WRITTEN BY GREG HARRIS

George Gardiner slipped on the ice at his home near Red Deer and broke his hip in 2016.

His journey through the health system began with surgery to fix his fractured left hip, and ended several months later with his full recovery.

Along the way, he and his wife Mary were helped by the Alberta Health Services Fracture Liaison Service (FLS). That meant the couple received personalized followup advice and care from a nurse and a physician.

“If this liaison team hadn’t been in place, the journey to recovery would have been a lot harder,” says Mary. “It was a tremendous resource. Our FLS nurse was fabulous and looked after all the arrangements for us.”

In Red Deer, FLS nurse Bev Bowles

and FLS physician Dr. Michael Mulholland provide hip fracture patients and their caregivers with guidance on their mobility and falls prevention. They also give followup medication for osteoporosis, a condition common among patients over 50 who have had a hip fracture.

In early 2018, FLS team members from across the province were recognized with an AHS President’s Excellence Award in 2018 for Outstanding Achievement in Innovation and Research Excellence. (See more on page 35.)

The FLS launched in 2015 at the Misericordia Community Hospital in Edmonton. It then expanded to Red Deer, Calgary and Grande Prairie. It’s now at eight sites in Alberta.

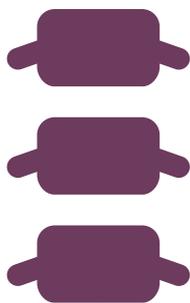
“Part of what makes this program so successful is the one-on-one attention we’re able to give to patients and families,” Bowles says. “They really like knowing someone is checking on them. And for us, it’s great to be able to catch problems as they arise, so that we can link them to the appropriate resources.”

The AHS Bone and Joint Health Strategic Clinical Network created the program with clinical experts and administrators from across the province. According to the network, about 2,700 people suffer hip fractures in Alberta every year.

Hip fractures in elderly patients are fatal about 30 per cent of the time. That is why it’s critical to reduce times to surgery and follow up during recovery.

Before the FLS, only about six per cent of hip fracture patients received medication to help manage their osteoporosis. Today that number is closer to 50 per cent. After a year, the FLS hands off the osteoporosis care back to a patient’s family physician.

“We are so thankful for this resource,” says Mary. “George’s surgeon was very impressed with his recovery progress and after four months said, ‘You don’t need to come back.’ ”



Delivering care at home

Home is where the health is

WRITTEN BY SCOTT ROLLANS

Where would you rather sleep tonight—in a hospital bed or in your own bed?

For most of us, that answer is home. With that in mind, Alberta Health Services has been creating innovative programs to treat and monitor more patients at home. Doing so frees up hospital beds, reduces emergency department loads, and even cuts the number of ambulance trips. More importantly, it can improve outcomes for many patients. We often heal better (and faster) when we can avoid the hospital.

Here are four programs delivering home-based care to Albertans who might otherwise end up in hospital.

Hospital at Home

A child's cancer diagnosis disrupts a family's entire world. Frequent clinic visits and extended hospital stays make their experience even more challenging.

"We wanted to ease the cancer journey for our patients and their families," says Dr. Lucie Lafay-Cousin, pediatric oncologist at the Alberta Children's Hospital in Calgary. One clear pathway to this, she says, was to reduce trips to the hospital. "Whatever we do in an outpatient setting, can we do it at home?"

The result was Hospital at Home (H@H), the first service of its kind in Canada. Instead of making trips into a clinic, which can take several hours, patients receive some of their

chemotherapy medications and procedures at home—in as little as five to 45 minutes.

In addition to saving time, home visits lessen the trauma for everyone involved. "In the clinic, [my son] is much more anxious and agitated and gets much more upset," says one mother. "Whereas here, he stays quite a bit calmer."

More recently, H@H has looked at ways to avoid hospital admissions. Normally, some young patients are admitted to hospital after their chemotherapy for intravenous hydration. "That can keep them in hospital for three, four, five days," Lafay-

Cousin says. Now they can go home right after treatment with a hydration backpack.

An ongoing H@H research project is already showing patients benefit, says Lafay-Cousin. "Patients can be less nauseated at home. We're seeing better symptom control and sleeping patterns."

Complex Care Hub

Elsie Smith has been in and out of hospital for the past three years. In July 2018, she was admitted yet again to Calgary's Rockyview General Hospital. This time, however, she was given an unexpected option. "They talked to me



Nyah Green receives treatment at home from nurse Shelaine Semmons through the Hospital at Home service.

Photo by Jenna McMurray



about this program, the Complex Care Hub,” Smith says. “They were going to send me home, but I was still going to be looked after. It sounded great!”

Under the Complex Care Hub (CCH), some Rockyview patients have the option to be treated at home. There, they receive daily care and monitoring from a CCH team—much as they would in hospital.

Smith is convinced she recovered more quickly at home. “It really gave me strength. It encouraged me to look after myself, and get better myself.” At the same time, Smith says, she developed a deep personal bond with her team. “Every one of them was so nice to me. They were wonderful.”

Dr. Michelle Grinman, who started the Complex Care Hub in Calgary, says the program touches team members just as deeply as it does patients. “One of our first Complex Care Hub doctors said the program let him understand his patients in a way that he had not been able to do before. . . . For the first time, he felt he was providing complete care.”

Home blood pressure telemonitoring

We use Bluetooth to power our cordless computer mice, or play music on our smartphones through our stereos. Now, a University of Alberta team is using Bluetooth to make a wellness connection.

Dr. Raj Padwal is director of the U of A’s Hypertension Dyslipidemia Clinic. He says Bluetooth can turn a simple home blood pressure gauge into a real-time therapeutic tool for patients who have had a stroke.

Followup care for stroke patients requires close monitoring. “The No. 1 risk factor for recurrent stroke is high blood pressure,” Padwal explains. Ideally, over the course of one week each month, patients record their blood pressure 20 times. “It’s surprising how often that doesn’t happen.”

So Padwal and his team have simplified the process for their patients—including James Rakai. Rakai loves his home monitor, which is paired with his computer. “In the morning, you sit down, hook up to it, and it takes your blood pressure and transmits it over the Internet to the university,” Rakai says. “It takes maybe five minutes.”

A case manager, usually a pharmacist with prescribing privileges, reviews the readings in real time. If necessary, the case manager adjusts the patient’s medication. The result? Better health outcomes and lowered costs.

“People often end up in long-term care after a second stroke. So, a little bit of monitoring to control risks goes a long way to prevent a future recurrent stroke, hospitalization, or even death,” says Rakai. The team received close to

\$187,500 from Alberta Innovates, plus \$750,000 from the Canadian Institutes of Health Research.

Community paramedics

“I seriously believe community paramedics have saved my life,” says Tracey McNair.

McNair, a patient with perilously high blood pressure, often felt reluctant to visit emergency. “I have a young child, so every time I had to go, I had to drag my family in,” she explains. “We would be in emergency all night.” Instead, she’d usually tough it out at home, telling herself, “I’m sure I haven’t had a stroke. I can fight through the pain.”

Ryan Kozicky, provincial director of Emergency Medical Services mobile integrated healthcare, says patients like McNair can now be referred by a physician to Alberta’s growing community paramedics program. “They call into the program, and we send out a community paramedic who provides a lot of diagnostics, treatments and physician consults,” Kozicky says. “The back of the unit is essentially like a minor emergency department, in terms of equipment and supplies, and treatment options.”

McNair says she now receives the care she needs, when she needs it. “They literally deliver the hospital to my home. The standard of care is second to none.”



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Visit www.ahs.ca/options





Megan Macdonald is just one of the teens in Alberta who will benefit from the new centre for child and youth mental health in Calgary.

Photo by Michael Interisano

Improving mental health

Creating a place for youth treatment and recovery

WRITTEN BY CHERYL MAHAFFY

As 14-year-old Megan Macdonald strode on stage to perform her poem “Be the Hope” at an adolescent mental health fundraiser in Calgary, few would have guessed she was hanging onto hope by the very tips of her fingers.

Days later, she sat in an emergency department, depressed and anxious, waiting for a hospital bed.

Then there’s Sierra Hanson, who wrote a note saying she wanted to kill herself. “We didn’t know where to go other than to the emergency ward,” says her mother, Michelle White-Hanson, who recalls the first of Sierra’s hospital stays and treatment programs for anxiety, eating disorders, addiction and depression. “And those times when she wasn’t admitted—it was very hard, then, to turn around and go home.”

Megan and Sierra are among the thousands of Alberta youth who will benefit when the new centre for child and adolescent mental health opens in northwest Calgary. The stand-alone centre will be built between 2019 and 2021. It will be a warm and welcoming place where youth can get help for the return to daily life.

“It is the first of its kind in Alberta and, for that matter, Canada,” says Janet Chafe, executive director of Alberta

Health Services Addiction and Mental Health programs. “We are thrilled that Alberta’s youth will be able to benefit from it.”

The Alberta Children’s Hospital Foundation is raising money for the construction of the centre, as well as for enhancements to programming and research. AHS will operate it with research support from the University of Calgary.

A major part of the centre will be a walk-in clinic for youth needing urgent help. Open 12 hours a day, the clinic will ease pressure on hospital emergency departments. It will also give youth in crisis a place to heal, says Ryan Clements, the centre’s program manager. “Kids and family can receive immediate support,” Clements says. “And they will be welcome to come back as often as needed.”

The centre’s programs will include new innovations and education, to make sure youth benefit from recent advances in research.

Other programs will include intensive outpatient therapy for individuals, families and groups, and day programs for those who left a hospital but still need support.

Suzanne Larsen-Wall is part of the

AHS Child and Adolescent Addiction, Mental Health and Psychiatry parental advisory council. She says the new centre will fill gaps her two daughters have experienced. “I’m really hoping the centre addresses the issue of transitioning back to society,” Larsen-Wall says.

Both Megan and Sierra are doing better now. They say the centre will help other families navigate the mental health system with less confusion and frustration than their families experienced. “It will provide a lot of quick, easy, guided access for people, and that’s really important,” Megan says. “I think it’s going to change lives.”

➤ FIND OUT MORE

For more information on the new centre for child and adolescent mental health, visit buildthemup.ca





With a voice comes choice

WRITTEN BY CHERYL MAHAFFY

Consider the Indigenous inmates who, on the day of release, are dropped off at a bus station with no money, no ID and no destination, chased by the twin demons of mental illness and addiction. Or the Indigenous person living with a mental illness, who steps yet again into treatment, but finds no opportunity to talk about past traumas or get support from elders.

What would it take to chart a better way?

Two Indigenous Patient Journey projects explored that question with the ones who know best: Indigenous people who have lived through such experiences.

Alberta Health Services researchers interviewed 200 First Nations, Métis and Inuit people—half in their communities, and half in correctional service centres. Most were or had been homeless, dealing with mental illness and addiction.

Nearly all told of dark journeys, says Randal Bell, senior advisor for Indigenous Populations. His passion for this work is fuelled by his heritage. He is a Nehithaw (Cree) from Saskatchewan. In his work, people spoke about traumas caused by residential schools, addiction and the deaths of people close to them. They spoke of culturally insensitive program staff, and the difficulty they had accessing services. Time and time again, they cycled from crisis to crisis.

“Capturing those stories is huge,” Bell says. “People will only go to the services

that work for them. It’s important that we listen to people and it’s imperative that we learn from them.”

The projects produced two reports. They build on work at AHS and elsewhere in the province.

“The projects are helping people see that Indigenous people experience service gaps no matter where they turn for help,” says Coreen Everington, strategy implementation director for Alberta Health’s Addiction and Mental Health.

What helped me is reconnecting with my culture, healing my spirit first

The report recommended hiring more Indigenous staff and expanding culturally appropriate programming. Other recommendations include training all AHS staff to understand the effects of trauma, opening more transition and harm-reduction housing and ensuring that everyone has identification so they can access services and support.

“The good thing is, this comes directly from the voices of the people we want to help,” says Marty Landrie, director of Indigenous Health Policy for Alberta Health.

“It’s making the invisible visible. And with a voice comes choice.”

Revealing numbers

Of the 200 Indigenous mental health services clients interviewed for the journey projects:

- **75** per cent had a parent or parents who had attended a residential school
- **41** per cent had attended residential schools
- **95** per cent did not understand their multiple symptoms were signs of precarious mental health
- **87** per cent in correctional services (and **75** per cent in communities) described multiple family tragedies and/or family breakdowns
- **84** per cent in correctional services (and **57** per cent in communities) said lack of government-issued identification kept them from accessing mental health (and other) services
- **80** per cent in correctional services (and **46** per cent in communities) reported childhood struggles with mental health within their families
- **86** per cent said caring and understanding staff are the most important factor in healing
- **35** per cent of those who no longer need mental health services credited their recovery and wellness to rediscovering their culture and spirituality.

Magnetic impulses offer hope for treating depression

WRITTEN BY CHERYL MAHAFFY

For patients with mental illness who've exhausted all standard therapies, repetitive transcranial magnetic stimulation (TMS) offers hope. It uses carefully targeted magnetic pulses to restore the brain's command centre. In turn, it helps curb depression in 50 per cent or more people.

Dr. Frank MacMaster's University of Calgary research team has been testing TMS on youth with depression at the Alberta Children's Hospital. The results are promising. "There are a good number of people walking around right

now who might not have been with us anymore without TMS," says MacMaster, Cuthbertson and Fischer Chair in Pediatric Mental Health at the Alberta Children's Hospital. "That is both a comforting and a terrifying thought. What would have happened without it?"

TMS also shows promise in treating stroke, post-traumatic stress disorder, cerebral palsy, concussion, autism spectrum disorder and more, says MacMaster, who is also a scientific director with the AHS Strategic Clinical Network for Addictions and Mental

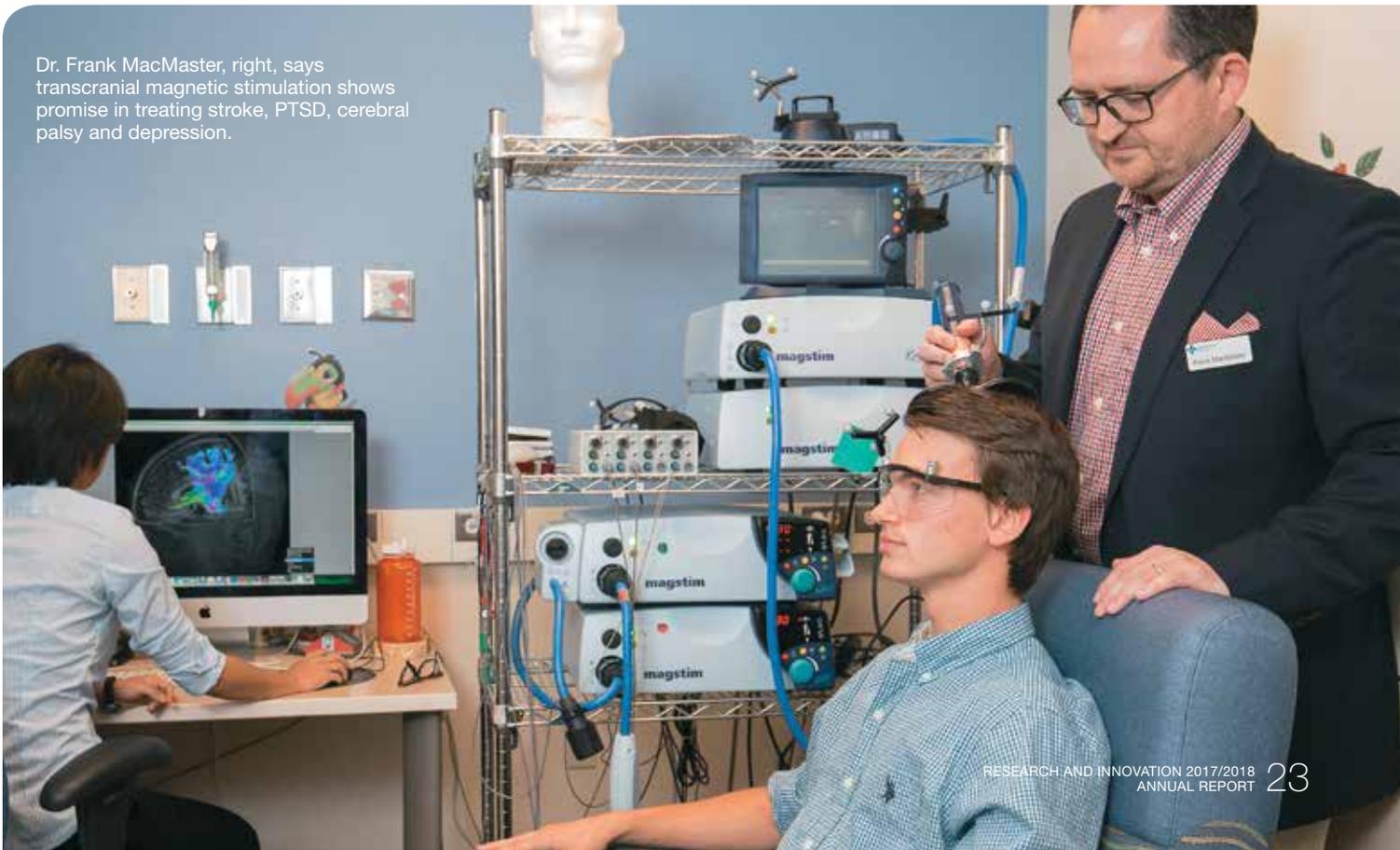
Health. "We're at the tip of an iceberg with TMS, and the safety profile makes it very attractive."

TMS has been available in Ponoka since 2004, thanks to the pioneering efforts of Dr. Doug Urness. In 2019, TMS will expand to Alberta Health Services hospitals in Edmonton and Calgary. Over time, the treatment will expand to other sites across the province.

► FIND OUT MORE

For more information, email brainkids@ucalgary.ca

Dr. Frank MacMaster, right, says transcranial magnetic stimulation shows promise in treating stroke, PTSD, cerebral palsy and depression.



Moving past illness

The Thrive Centre's fitness programs ease the cancer journey

WRITTEN BY DOUG FIRBY

Trevor Willmer hadn't exercised a day in his life, until tongue cancer turned his life upside down.

As he prepared for radiation therapy, he was asked to take part in a study measuring the effects of exercise on cancer and its treatment. He jumped at the chance.

The Thrive Centre is based at the University of Calgary's Faculty of Kinesiology. It offers space to conduct studies and programs designed to

benefit patients by keeping them active during cancer treatment.

The centre was founded in 2011 by Nicole Culos-Reed, PhD, a UCalgary kinesiology professor, and Lauren Capozzi, now a physician and physiatry resident in Calgary. (Physiatrists diagnose and treat both acute pain and chronic pain and specialize in nonsurgical treatments for the musculoskeletal system.)

Volunteers, mostly kinesiology students, run the Thrive Centre gym. The Totem Charitable Foundation provided funding for equipment.

The Thrive Centre supports programs and research for cancer survivors, as well as caregivers. One research study, Alberta Cancer Exercise (ACE), involves a free 12-week class offered in several communities across the province.

"We are unique," says Culos-Reed, who is also a researcher at Alberta Health Services Tom Baker Cancer Centre. "We are absolutely the only centre of its kind across Canada."

The centre's team is gathering data on how active living can help patients manage symptoms, slow down declines in fitness and strength, and speed recovery from cancer treatments.

Culos-Reed says the five-year

ACE study will have close to 1,000 participants from across Alberta by early 2019.

When patients enrol, they get a fitness assessment and customized exercise program that is delivered in a group setting. They participate for free during treatment. Many, like Willmer, pay a small fee for a maintenance program once treatment ends.

Culos-Reed believes the results will eventually persuade health providers across Canada to include wellness programs in cancer treatment.

"There's so much evidence," says Culos-Reed. "We know exercise needs to be a standard part of care for so many people with cancer."

It has been five years since Willmer was diagnosed. Now 52 and cancer-free, he continues to work out. And Willmer says the support he found through the Thrive Centre helped him through his cancer journey.

"The people at the Thrive Centre were so supportive," he says. "It was the exact place I needed to be."

➤ FIND OUT MORE

To learn more, go to thriveforcancersurvivors.com or email wellnesslab@ucalgary.ca.

Exercise needs to be a standard part of care for so many people with cancer



Cancer survivor Trevor Willmer now works out regularly after enrolling in the Thrive Centre's research program.

Photo by Ewan Nicholson

Families join in detecting the mystery of delirium

WRITTEN BY JACQUELINE LOUIE



Researcher Kirsten Fiest is spearheading a study targeting the rates and effects of delirium at the Foothills Medical Centre in Calgary.

Photo by MJay Photography

One of the mysteries of intensive care patients is that about half of them end up with delirium, a fluctuating state of serious confusion and inability to focus or pay attention.

Delirium is hard to identify. And its effects can last long after patients leave a hospital.

Those effects include depression, anxiety and impaired cognitive abilities. And family members can also be affected by delirium; they are at risk of depression and anxiety.

In Calgary, researchers spearheading the Family Intensive Care Unit Delirium Detection Study (FIDDS) hope to reduce the rates and effects of delirium among patients and families. FIDDS is one of only a handful of Canadian studies to include families in the care of patients with delirium. Ultimately, the goal is to reduce stays in intensive care units and hospitals.

“We’re asking family members to be more engaged in care, hopefully for the betterment of everyone,” says Kirsten Fiest, who holds a PhD in epidemiology. She is the study’s principal investigator

and an assistant professor in three departments at the University of Calgary’s Cumming School of Medicine.

Fiest and her team recruited 142 patient and caregiver teams for the study, which ran from November 2017 to September 2018 at Calgary’s Foothills Medical Centre intensive care unit. The study was supported by the Canadian Institutes of Health Research and the Canadian Frailty Network.

Researchers asked caregivers to measure delirium symptoms in their loved ones, using two assessment tools. The goal was to see if healthcare workers could also use those tools in an intensive care unit.

Fiest plans to publish the results this spring. And she hopes the findings can be used in other areas where delirium is common, such as pediatrics.

The work of Fiest and her team could help inform the ongoing efforts of the Alberta Health Services Provincial ICU Delirium Initiative, which seeks to minimize the effects of delirium and improve patient outcomes in all 21 intensive care units across Alberta.





Gaining control over chronic conditions

WRITTEN BY GREG HARRIS

Kathryn Winkler started driving her 85-year-old mom Katharina to an exercise class in Calgary for osteoarthritis. A short time later, she she moved off the sidelines and began participating herself.

“I thought, ‘I’m here anyway, and I have a little bit of osteoarthritis developing in my hips, so it can’t hurt, right?’” the 56-year-old Winkler recalls.

She’s glad she did. After completing the eight-week program, she reports less pain and better mobility.

“This isn’t just for seniors. It’s great for everyone,” Winkler says. “I think it’s one of the first things to prescribe when someone has osteoarthritis.”

The Good Life with osteoArthritis: Denmark (GLA:D) program is currently offered in 39 clinics in 18 communities across the province. Alberta Health Services partners with physiotherapy clinics to deliver the program.

People who sign up for GLA:D get information about osteoarthritis, managing symptoms, handling difficulties with daily activities, and why and how exercise can help.

In hour-long group exercise sessions, participants learn how to: sit and stand properly; control movement; build muscular strength through functional exercises; and apply these exercises to everyday activities.

“Through the GLA:D program, people with osteoarthritis can learn to gain some control over their chronic conditions,” Kira Ellis says. She is the provincial osteoarthritis practice lead with the AHS

Bone and Joint Health Strategic Clinical Network.

“They can improve their own functional mobility and take steps to reduce their pain through exercise and lifestyle choices.”

GLA:D Canada reports participants’ pain decreases, on average, by 30 per cent and that their increased physical activity improves their quality of life. Close to three-quarters of participants say they use their new knowledge about osteoarthritis daily, and another quarter of participants use the information at least once a week.

Paul Fitzpatrick, a 68-year-old Calgarian with severe arthritis in both knees, was an early GLA:D participant. He says he sees a surgeon once a year to see if the time has come for knee replacement surgery.

“The last time I saw him, he said, ‘Keep on doing whatever you’re doing,’” Fitzpatrick says. “It’s definitely helped me. The longer I can postpone surgery, the better.”

Fitzpatrick is a former marathon runner who doesn’t have the added stress of excess weight on his joints. He nevertheless still sees several benefits to the program.

“It gives you a sense of control, the ability to manage your own condition,” he says. “It’s sometimes tough to have the self-discipline to do these things on your own, so it’s helpful when you have to be accountable to someone else.”

Tim Kutash, manager at Crowfoot Physio, says the GLA:D program

gets results. “It’s rewarding to see the progress people can make over the eight weeks. It really makes a difference.”

AHS piloted the program in 2017 through its Bone and Joint Health Strategic Clinical Network. Other partners include Bone and Joint Canada, the Canadian Orthopaedic Foundation, the Alberta Bone and Joint Health Institute and the Arthritis Society.

To learn more about GLA:D, or to find the location nearest you where it’s offered, visit ahs.ca/glad.

LIVING WELL WITH OSTEOARTHRITIS

- Osteoarthritis is the most common form of arthritis.
- Joints in the knees, hips, spine, hands and fingers, shoulders and feet are the most commonly affected.
- No matter what your age or stage of osteoarthritis, exercise is a scientifically supported treatment to improve your health or condition.
- If you are overweight and have osteoarthritis, losing five per cent of your total body weight has also been shown to improve symptoms.
- Programs such as GLA:D help decrease joint discomfort and improve functional abilities.



Jacob is one of the eight healthy babies born at Pregnancy Pathways, which provides safe housing for pregnant women living on the street during and after pregnancy.

Stronger starts

Providing hope during pregnancy

WRITTEN BY JACQUELINE LOUIE

Helping women to make healthy choices for themselves and their children, and giving hope. These are what Pregnancy Pathways is all about.

“Pregnancy is such a hugely important time,” Richard Oster says. He is a senior project manager with Alberta Health Services’ Maternal Newborn Child and Youth Strategic Clinical Network. “Our health trajectories begin in the womb. Safe and healthy pregnancies can lower the risk of chronic diseases later in life.”

With that in mind, Pregnancy Pathways provides safe housing for pregnant women living on the street during and after their pregnancy. The first program of its kind in Edmonton, it operates through the city’s Boyle McCauley Health Centre. Women in the program live in an apartment building donated by Edmonton architect Gene Dub.

“Pregnancy Pathways is supporting moms in the ways they need to be supported,” says Oster, who holds a PhD in experimental medicine and is also a University of Alberta research associate.

Pregnancy Pathways helps participants develop parenting skills and navigate the child welfare system. It also helps them access strategies to reduce the harm of substance abuse and addiction. The program also connects women

to other services, so that when they move out on their own, they are well supported. And it includes Indigenous cultural and healing practices.

Pregnancy Pathways received funding from Merck for Mothers, a program focused on healthy pregnancy and childbirth outcomes. The goal is to improve infant and maternal health among Indigenous people in Maskwacis, Little Red River and downtown Edmonton.

Since December 2017, Pregnancy Pathways has welcomed 10 women through its doors and the birth of eight healthy babies. (Two more are on the way.)

Merck for Mothers in Alberta has provided funding for one more year. The team is now evaluating the program’s benefits.

“Pregnancy Pathways has been a true collaboration between AHS, Merck for Mothers in Alberta, researchers and the community,” Oster says.

The long-term plan is to continue the work and expand the project in Edmonton, where up to 100 pregnant women are homeless each year.

FIND OUT MORE

If you want to know more about Pregnancy Pathways, go to bmhc.net/pregnancy-pathways.html.





Improving care for newborns

WRITTEN BY DOUG HORNER

A team of Alberta health professionals has invented a device to keep newborns connected to their mothers while receiving resuscitative care.

The Integrated Neonatal Support with Placental Transfusion and Resuscitation is also known as INSPiRe. It is a portable platform outfitted with its own gas and power supplies, a breathing device and other equipment that's needed to revive newborns.

"We can wheel this pretty much anywhere," says Dr. Sumesh Thomas, medical director of neonatology at the Foothills Medical Centre, one of Alberta Health Services' largest hospitals. Thomas designed the platform with Leigh Irvine, a neonatal nurse practitioner and Trevor Fourmeaux, director of medical engineering for the Foothills. They created it so healthcare providers could bring resuscitative care directly to a newborn instead of having to cut the umbilical cord and rush the babies away from their mothers.

"Delaying the clamping of the umbilical cord following delivery improves the newborn's ability to receive the blood that is still in the placenta," Thomas says.

Blood volume, iron stores and stem cells continue to move through the umbilical cord after birth. Babies who remain attached to the placenta for at least 60 seconds need fewer medical interventions and are less likely to suffer bleeding in the brain.

Some babies, particularly those born prematurely, need resuscitative care

as soon as they are born. "The most vulnerable babies, those who probably need such care the most, were not able to benefit from it because those are the babies that require immediate resuscitation," Thomas says.

Anastazia Stewart, three, was one of the first babies born in Calgary to benefit from the INSPiRe platform. "We as a family think it is one of the most amazing programs that a premature baby could have the gift of receiving," says her mom Jasmina Stewart. "Anastazia is one

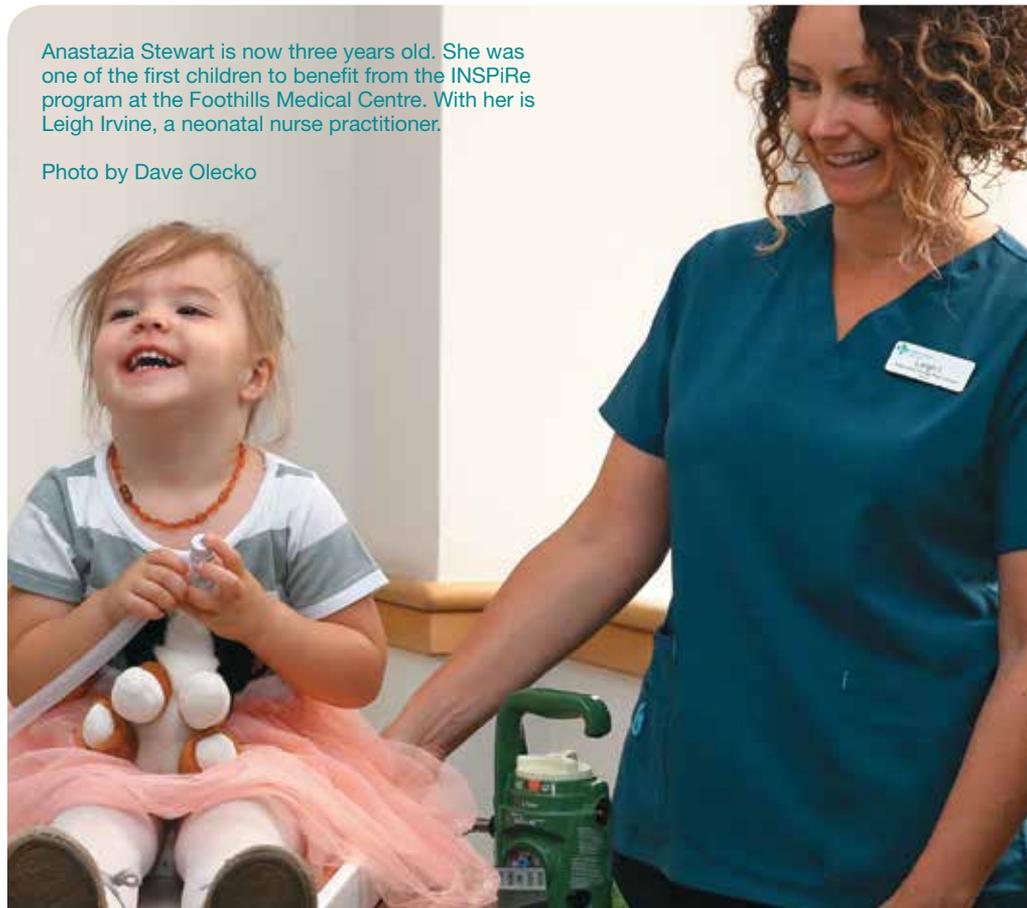
lucky and blessed little girl."

Thomas and his team are now in year two of a five-year international study funded by the National Institutes of Health. The study will evaluate the device's effectiveness for babies born at less than 29 weeks.

"We would love to see this become the standard of care for pretty much all babies," Thomas says. "It offers the benefits of delayed cord clamping and it keeps the baby close to the mother at all times."

Anastazia Stewart is now three years old. She was one of the first children to benefit from the INSPiRe program at the Foothills Medical Centre. With her is Leigh Irvine, a neonatal nurse practitioner.

Photo by Dave Olecko



Making a difference

Investing in healthcare

WRITTEN BY CHERYL MAHAFFY

Dianne and Irving Kipnes have made philanthropy a way of life. The Edmonton couple has invested millions in arts and healthcare, including donations to every major University of Alberta Hospital fundraising campaign.

This fall, they added to that remarkable portfolio of good work by donating \$10 million to the University Hospital Foundation, in support of the Northern Alberta Urology Centre at The Kaye Edmonton Clinic. In honour of their generosity of time as well as money, the centre has been renamed the Dianne and Irving Kipnes Urology Centre.

The centre has 32 patient examination rooms, six cystoscopy rooms for procedures that look inside the bladder, and a lithotripsy area that uses shock waves to break up kidney stones. A cornerstone of the centre is the C.J. Woods Prostate Health Clinic, which provides quick, comprehensive care to men needing tests or prostate cancer treatment.

The very existence of a one-stop centre of excellence for prostate cancer and other urological conditions within Alberta Health Services owes much to Irving Kipnes. A prostate cancer survivor who understands the need

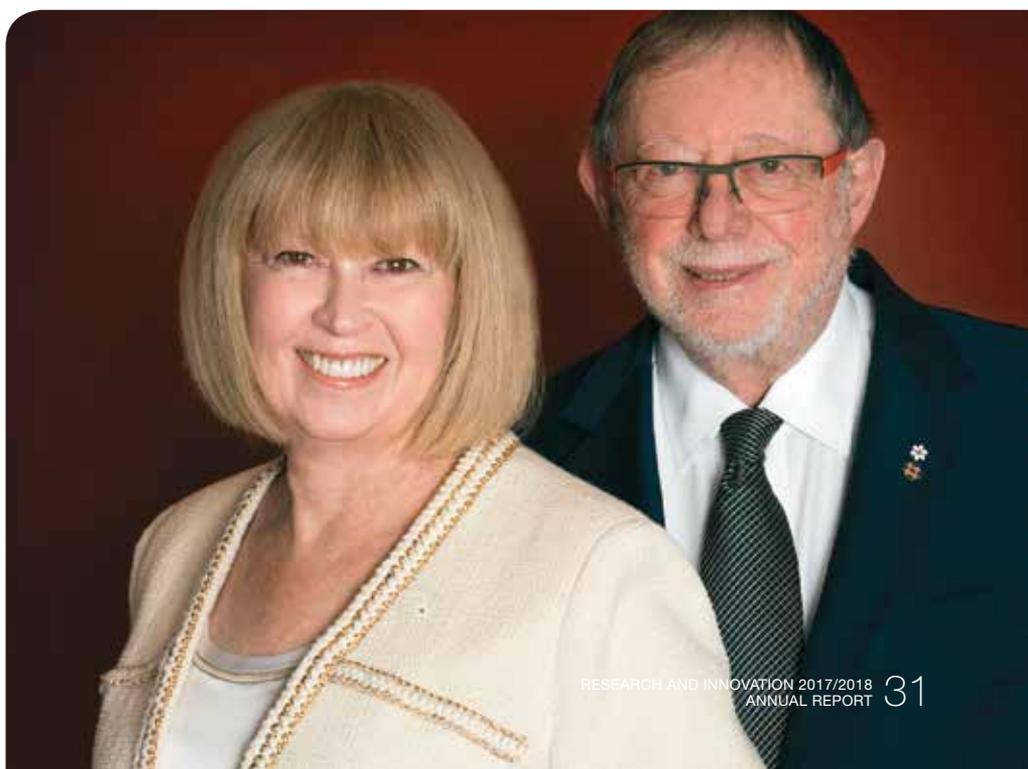
for coordinated care, he co-chaired the \$30-million campaign that funded the centre's launch two years ago. Since then, Dianne has relied on the clinic to cope with cervical cancer complications. As Irving told the crowd at an event celebrating the gift and the renaming, the centre's work falls "close to home for Dianne and myself."

Already the centre has attracted more than 100,000 visits, far more than predicted. The latest \$10-million infusion will fuel the research needed to continue that trajectory, says Dr. Dylan Taylor, who co-directs the centre with Cathy Osborne. "When faced with cancer and other life-threatening diagnoses,

many patients feel fear, frustration and anxiety. We are able to replace that with confidence and hope—and maybe one day, a cure."

John Sexsmith has travelled that journey from anxiety to hope. The Global Edmonton sports reporter recently went public about his diagnosis of advanced prostate cancer. Onstage at the renaming celebration, he spoke openly about his artificial bladder ("my coach bag"), his hormone therapy ("I'm going through menopause") and his thanks to urology staff for emotional and physical healing. "Laughter is truly the best medicine," he said. "I am dreaming to live and planning to share a lot more laughs."

Dianne and Irving Kipnes have given \$10 million to the University Hospital Foundation in support of urology care and \$7 million in partnership with the University Hospital Foundation to the University of Alberta's Faculty of Medicine and Dentistry to establish The Dianne and Irving Kipnes Chair in Lymphatic Disorders.



Virtual reality for wound care patients a Canadian first

WRITTEN BY BLAIN FAIRBAIRN

Patients undergoing wound care at the Rockyview General Hospital are benefiting from a new virtual reality program to help ease pain and anxiety.

The program uses Samsung Gear VR headsets funded by an anonymous donor. Using one of the two sets, wound

care patients are transported to a virtual three-dimensional environment. They can explore a lakeside campground, a prehistoric landscape with dinosaurs or take an ocean swim with dolphins.

Patients who used virtual reality found it helpful, reporting a 75 per cent

reduction in discomfort and a 31 per cent improvement in overall experience. "It's a godsend," says Graydon Cuthbertson, a 47-year-old Calgary man who used the therapy three times after multiple surgeries on his calves. "Even with painkillers, the first time I had wound care after my surgery, the pain was excruciating. But with virtual reality, I got through the next treatment with flying colours."

The program is being tested on patients in the hospital's intensive care and cardiac care units.

Data is being shared with other AHS sites in the hopes the program may help patients across Alberta. "Technology has always played an important role in healthcare, but this is particularly exciting in that we can make a really positive impact on a patient's experience without having to invest in something costly or complex," says Christopher Burnie, the hospital's allied health manager.



Calgarian Graydon Cuthbertson says the new virtual reality pain management was "a godsend."

Photo by Blain Fairbairn



Supporting healthcare across the province

Foundations raise an estimated \$250 million annually to support healthcare across Alberta, providing equipment, programs, renovations, research and education

Six examples from around Alberta:

1. The Lac La Biche Regional Health Foundation raised \$2.1 million to fund a CT scan suite at the William J. Cadzow – Lac La Biche Healthcare Centre.

2. The Canmore and Area Health Care Foundation helped fund the construction of two labour and delivery rooms in the Canmore General Hospital. Lorne and Joyce Heuckroth donated \$650,000 to the foundation to make the rooms reality.

3. In Edmonton, Donald Kaye donated \$30 million to the University Hospital Foundation, the largest gift ever given to healthcare in Alberta. The money supports various areas of research, including Parkinson’s disease, prostate

cancer, C. difficile infections and kidney stones. The Edmonton Clinic was renamed the Kaye Edmonton Clinic in his honour.

4. Thanks to an anonymous donation, the Red Deer Regional Health Foundation funded a transesophageal echocardiography system to the Red Deer Regional Hospital Centre. Better known as a “TEE echo,” it allows doctors to take heart ultrasounds and look for blood clots, valve and aorta abnormalities.

5. The Medicine Hat and District Health Foundation donated more than \$1.1 million for the Medicine Hat Regional Hospital’s new ambulatory care space. The hospital’s kidney care, neonatal intensive care, surgery, respiratory, ambulatory care clinics and programs, as well as the Margery E. Yuill Cancer Centre, have all benefited.

6. Funding from Alberta Children’s Hospital Foundation donors helped experts at the Alberta Children’s Hospital and Research Institute discover a biological “fingerprint,” which is being developed as a blood test to quickly diagnose appendicitis in children.

Donald Kaye donated \$30 million to the University Hospital Foundation.

Giving by the numbers

There are 69 foundations in Alberta that work in direct partnership with AHS. Almost 1,000 volunteers serve on the boards of those 69 foundations.

- **17** are in northern Alberta
- **12** are in and around Edmonton
- **16** are in central Alberta
- **11** are in and around Calgary
- **12** are in southern Alberta
- **1** is provincial (Alberta Cancer Foundation).



Getting involved

Helping advance patient care

From emergency departments to continuing care centres, healthcare workers are often testing new treatments and technologies. They also work on research studies to prevent and cure illnesses and disease. That's why you may be asked to be part of a research study when you visit an Alberta Health Services facility. Whether you take part or not, you will always receive the best available care.

When you participate, you become a member of a team working to improve healthcare for all Albertans.

Find out more at ahs.ca/ParticipateResearch or find a study that is right for you at bethecure.ca.

Why be part of a study?

Participating in a research study may help you and many other people.

You may gain access to new treatments before they are available to the public or made part of standard care practices.

Being part of a research study gives you a more active role in your healthcare. You can be involved as a patient or a family adviser. Sharing your experience and expertise with researchers helps improve care.

Protecting privacy

Research projects at AHS facilities meet strict ethics requirements and privacy regulations. This ensures that if you're part of a study, your personal health information is protected and confidential.

Clinical trials by the numbers

In 2017, Alberta Health Services had:

- **4,400** active clinical research studies (which can take the form of a survey, a physical test or a highly regulated clinical trial)
- **1,078** new patients enrolled in cancer clinical trials.

Alberta hospitals make Top 40

WRITTEN BY GREG HARRIS

Alberta Health Services research hospitals in Edmonton and Calgary have made the list of a national top 40 ranking, for the third consecutive year.

Edmonton Zone hospitals and Calgary Zone hospitals ranked 16th and 23rd, respectively. Overall, the research taking place in AHS facilities remains valued at roughly the same this year as last—\$83 million.

The rankings were recently released by Research Infosource, a consulting, research and publishing firm that also publishes rankings on research colleges and universities.

"Rankings like these serve as a rough benchmark for where we sit nationally, but ultimately it's less about the research money, and more about the research that's being done with the money," says Dr. Kathryn Todd, the vice president of System Innovations and Programs at AHS.

"Whether it's related to cancer or cardiovascular health, neuroscience or nephrology, AHS supports world-class researchers across the healthcare continuum in their efforts to improve patient outcomes."

Every year, AHS supports thousands of new and ongoing studies that use AHS facilities, patients and systems. Last year alone, research ethics boards in Alberta approved more than 1,400 new studies requiring AHS involvement.

Edmonton Zone research hospitals include the University of Alberta Hospital, the Stollery Children's Hospital, the Royal Alexandra Hospital, the Glenrose Rehabilitation Hospital, the Cross Cancer Institute and the Mazankowski Alberta Heart Institute.

Calgary Zone's primary research hospitals include the Foothills Medical Centre, the Alberta Children's Hospital and the Tom Baker Cancer Centre. Research also takes place at the Peter Lougheed Centre, South Health Campus and Rockyview General Hospital. | a





President's Excellence Awards

Celebrating the best of the best

The President's Excellence Awards recognize Alberta Health Services staff, doctors and volunteers for their commitment to patient care

ILLUSTRATIONS BY MICHAEL BYERS

The annual President's Excellence Awards celebrate Alberta Health Services staff, doctors and volunteers who demonstrate the highest standards in innovation, collaboration and patient-centred care in the community.

The awards showcase the many ways the AHS team is working hand-in-hand with patients and families to continually improve the range and quality of services we offer.

The 21 award recipients were selected from a record 138 nominations in 2018. Each recipient is an outstanding example of the great work our people do every day.

On the following pages, we profile four of our President's Excellence Awards recipients, highlighting the depth, breadth and diversity of our healthcare teams.





★ No One Dies Alone (NODA)

Patient- and Family-Centred Care

Since 2015, a group of 17 volunteers have spent more than 1,800 hours sitting with people who are dying in Calgary hospitals. No One Dies Alone (NODA) arranges for a volunteer to sit with a dying person in the last hours of their life.

The program is geared toward patients who don't have family or friends available to be with them in this most complex and profound time.

"Sometimes, a patient has outlived their family, they're too far away or they might be estranged," says Diane Gow. She has volunteered with NODA since it started in Calgary. The volunteers get psychological supports, mentoring and training.

"I've been with people who want your presence but they don't really want you that near. And I've been in other situations where you're right in there with them because they're in pain or scared, or whatever it is they're feeling in their last moments, they need you really close."

"It's such an honour for me to come in," Gow says. "I've been with people who are just so scared of death. You can't answer the big questions, but you can certainly be with them as they make that journey."

Roberta Saltvold volunteers with NODA in Red Deer. This year, she won a President's Excellence Award for lifetime achievement for her volunteer work.

"I felt a calling to visit those who are sick and, in so doing, be of service to others," Saltvold says. "It's very rewarding work."

— Jennifer Allford

★ Celebrating a life

Patient- and Family-Centred Care

Joe Old Woman knew he was dying, but the 68-year-old husband, father, grandfather (and cowboy) had come to terms with it. A Siksika Nation resident, Old Woman had been looking forward to a celebration of life, which was being organized by his family for him, and to thank his community for their support during his illness.

The event was to take place at his home, but before it could happen, his health took a turn for the worse. He was admitted to the Bassano Health Centre and the ceremony was cancelled.

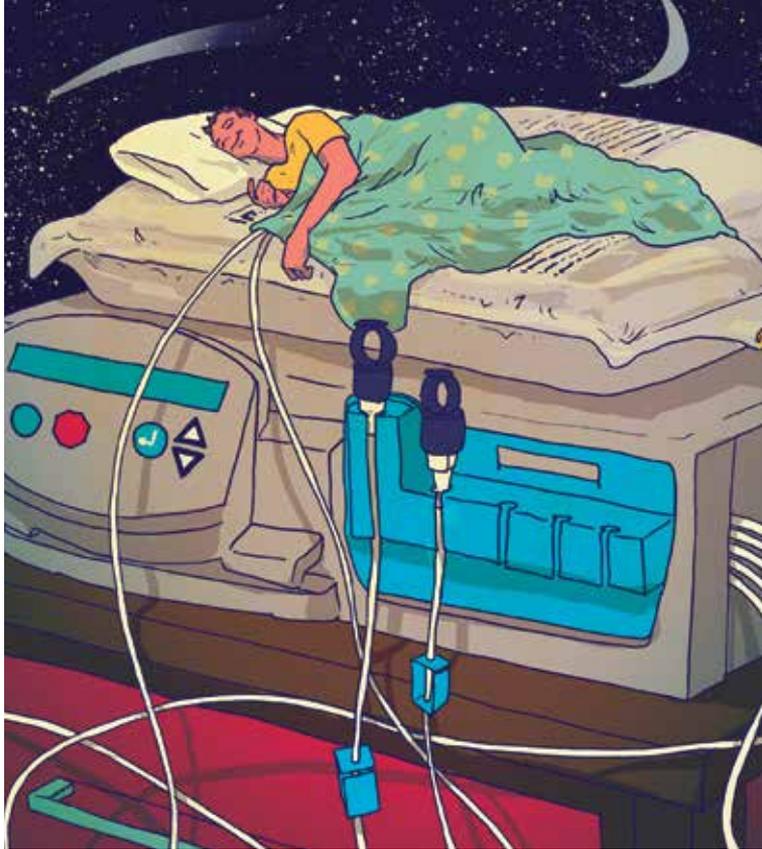
Site manager Simone Empson heard from Old Woman's family how disappointed he was over the cancellation of his celebration. She and her team—including Chris Maloney, Helen Stuart, Cindy Young and Sandy Halldorson—decided to help them hold it at the hospital.

Health centre staff, the Town of Bassano and others rolled up their sleeves right alongside Old Woman's family to make it happen. The Horn Society—one of seven societies within the Siksika Tribe—put up Old Woman's teepee on the hospital lawn for a sweetgrass ceremony and smudging. The Siksika Fire Department set up a tent beside the teepee, where a feast for more than 70 people was served. The Town of Bassano provided picnic tables.

Old Woman saw the teepee from his window every day after that until he died two weeks later.

"He was so happy to be able to have his teepee so he could go inside it one more time," says his widow, Debbie Old Woman. "It was such an honour, the way it all happened."

— Sherri Gallant



★ Getting dialysis at home

Quality Improvement

When someone’s kidneys fail, two things have to be sorted out—when to start dialysis to help the kidneys do their job and the type of dialysis to use.

One type is hemodialysis, which requires coming into the hospital or clinic regularly for several hours, three days a week. The other type is peritoneal dialysis, which is cheaper and can be done at home.

The START project—also known as Starting Dialysis on Time at Home on the Right Therapy—collects specific information from every person in Alberta who is starting dialysis therapy to ensure patients begin treatment at the right time.

The team of more than 60 healthcare workers and doctors helps decide who qualifies for peritoneal dialysis at home and supports them throughout the process. Dialysis has a big impact on a person’s life, says the START team. It’s important that the type of dialysis fits with a person’s lifestyle and reduces any negative impact on their quality of life.

Michael Bacelonia has been receiving peritoneal dialysis at home for a year, thanks to the START project. He hooks himself up to the machine next to his bed at 10 p.m. and wakes up at 6 a.m.

“With dialysis at home, you’re not stuck at the hospital for eight hours,” he says. “I love it.”

— Jennifer Allford

★ Goodbye to sugary drinks

Service Excellence

Regularly drinking sugary beverages such as pop increases the risk of heart disease, Type 2 diabetes, certain cancers and tooth decay. That’s why, in April 2017, the Rockyview General Hospital in Calgary removed sugar-sweetened drinks from its cafeteria and vending machines.

Dr. Sheila Watson, an obstetrics and gynecology doctor at the Rockyview, spearheaded the change. Working with suppliers and the vending machine operator, the hospital replaced 23 sugary drinks with 26 healthier options, including flavoured waters.

“We surveyed our customers at the launch, three months, and one year after. Each time, more than 80 per cent of people were supportive, so that was great,” says Colin Porter, AHS Retail Food Services director, Calgary Zone. “It confirmed that our customers were ready for the change and like having easy access to healthier beverages.”

Not only are people thirsty for healthier drinks, they’re paying less for them.

On average, the healthier beverages are 23 cents cheaper than the sugar-sweetened drinks they replaced.

— Jennifer Allford

Introducing our award winners



Congratulations to all of this year's nominees and recipients. Your achievements make me so proud to lead an organization filled with people who consistently strive for excellence and provide such great care to Albertans.

—Dr. Verna Yiu,
President and CEO,
Alberta Health Services

The President's Excellence Awards celebrate Alberta Health Services staff, doctors and volunteers who demonstrate the highest standards in innovation, collaboration and patient-centred care.

Selected from a record 138 nominations, this year's 21 award recipients are outstanding examples of the great work our people do, each and every day.

- ★ **Outstanding Achievement in Patient- and Family-Centred Care**
 - Bassano Health Centre
 - Edmonton Early Psychosis Intervention Clinic Team
 - No One Dies Alone
- ★ **Outstanding Achievement in People Excellence**
 - Community Engagement and Communications
 - EMS Psychological Health and Safety Committee
 - Young Medical Minds Educational Institute, Camrose
- ★ **Outstanding Achievement in Service Excellence**
 - Clinical Support Rural Applications Team
 - Edmonton Zone Form 10 Improvement Team
 - Rockyview General Hospital Replacement of Sugar-Sweetened Beverages Initiative
- ★ **Outstanding Achievement in Innovation and Research Excellence**
 - Alberta Children's Hospital Bone Marrow Transplant Program
 - Alberta Provincial Pediatric Enteric Infection Team (APPETITE)
 - Alberta's Fracture Liaison Service Team
- ★ **Outstanding Achievement in Quality Improvement**
 - Addiction & Mental Health School-Based Services Team
 - Commitment to Comfort Quality Improvement Collaborative Team
 - Starting Dialysis on Time at Home on the Right Therapy (START)
- ★ **Lifetime Achievement (AHS staff or physician)**
 - Dr. Cledwyn Lewis
 - Fred Stegmeier
 - Mildred Colter
- ★ **Lifetime Achievement (volunteer)**
 - Alice Babb
 - Linda Campbell
 - Roberta Saltvold



Together, we do amazing things every day

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Healthy Communities.
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