



Applied Research & Innovation

(at Red Deer College)

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**DR. PAULETTE
HANNA**

There's book smart and then there's life smart. In Applied Research and Innovation at RDC we believe the value of all learning is in its application.

Our community College provides real-time, big-world opportunities to influence advancements in technology and/or the health and wellness of the community at large. Some of the projects we take on have a distinctly local focus. Others are destined for international exposure.

It all represents an outstanding learning opportunity.

Our students participate as contributing members on research teams right alongside faculty advisors, community stakeholders or clients. They help to define and measure inputs, collect data, conduct analysis and present their findings and/or render prototypes.

Whether helping an Alberta entrepreneur take an idea into production, or working with a faculty advisor and local stakeholders to advance community health and wellness through the Health Research Collaborative, RDC students can count on an education that is meaningful because it is applicable.

We've featured a number of RDC students and applied research projects in this publication. It's the kind of work that makes all of us proud.

Vice President Academic | Red Deer College



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**DR. SCOTT
ODDIE**

Our role with the Health Research Collaborative is about bringing the right people together to collaborate around a research initiative for the purpose of making evidence-based decisions that improve the health of the community. Project teams regularly involve RDC faculty, students and community stakeholders.

Together we build the capacity for our community to understand evidence; to know the right questions to ask, and to know how to generate measures that would address the questions they have about health-related issues — issues that align with provincial health priorities.

Having the right people engaged at the front end of the research process, in the development of the research methodology, supports knowledge transfer so that the evidence we generate is immediately relevant and purposeful, and can be used to inform decisions to improve health.

This document highlights a sampling of meaningful HRC initiatives at RDC; initiatives that connected College students and the community through real-world, hands-on applied research for the purpose of higher education and community development.

Rural Health Research Chair | Applied Research and Innovation | Red Deer College | Alberta Health Services



Centre for Innovation in Manufacturing

Through RDC's applied research and our Centre for Innovation in Manufacturing, we bring together thought leaders, creative artists, entrepreneurs and industry to enable our learners to experience applied learning at its best. We support businesses as they innovate to create new products and explore new markets, meeting demands locally, provincially and abroad. We are known for our scholarly work, innovative research projects that support business and industry, and for offering practical solutions to social issues and technological challenges in our region.

Here are a few stories to share of our success and collaboration within the community.

A Quiet Night's Sleep Starts Here

Sleep isn't always restful, or peaceful. It should be but it isn't. Just ask people who suffer from sleep apnea, people who snore, or the people who those people sleep with. The inability to get a good night's sleep is a widespread problem.

The Good Morning Snore Solution®, a locally conceived, clinically proven anti-snore device is helping put the snoring issue to rest — globally.

When Dr. Nancy Markley, President and CEO of MPowRx Health and Wellness Products 2012 Inc. (MPowRx) approached RDC's Centre for Innovation in Manufacturing, she hoped to leverage technical expertise and rapid prototyping technology to modify product design and test packaging options based on preliminary customer feedback. The experience provided all that and more.

That early collaboration with RDC saved Dr. Markley's company valuable time and money while getting the form, fit and function just right for their one-size-fits-all medical device. It also provided a unique learning experience for an RDC student. "One of our students worked with Dr. Markley to implement adjustments to the various prototypes, helping to ensure the product was exactly right before moving it into mass production," said Alicia Cafferata-Arnett, Project Coordinator with Applied Research and Innovation. "It's a learning opportunity we can provide because we have the 3-D printer and vacuum forming technology available at the College."

Perfecting the prototype was only part of the assignment. Getting packaging right was also key. It needed to be lightweight and strong enough to withstand international shipping.

"This work was really on the critical path for us to go global with the product," said Markley. "It led to our ability to scale the business and then evaluate new market opportunities not currently being targeted."

Having secured government clearance for this innovative medical device from Health Canada, the United States Food and Drug Administration

(FDA), The European Economic Area (EEA) and the Australian Register of Therapeutic Goods (ARTG), Markley's stop-snoring device is now sold in 43 countries on five continents around the globe. As she investigates the possibility of expanding into a largely untapped international market, Markley is now advancing development of a device for treatment of adolescent sleep apnea.

"More children are suffering from sleep apnea than ever before, raising concerns among sleep doctors that an epidemic is on its way," said Markley. Having ready access to a non-invasive and cost-effective solution could facilitate early diagnosis and treatment for youngsters suffering from sleep apnea, no matter where they are in the world.

"At MPowRx we believe that a peaceful sleep is a right, not a privilege," said Markley. That's why she continues to work hard to grow her business and deliver this innovative, affordable and effective solution to as many people as possible.



Clamping Down on Traumatic Blood Loss



A traumatic injury can be life threatening. Uncontrolled bleeding will reduce a healthy person to a gravely ill patient in under an hour. Emergency medical personnel know the sooner they can get the bleeding under control, the better off the patient will be when they get to the hospital or to the next level of care. But it can be a challenge to stop severe bleeding in a hurry.

That challenge is what inspired the iTClamp®, a highly mechanical yet remarkably easy to use medical device designed to instantly clamp a compressible wound shut. The temporary seal promotes natural clotting, which staves off further blood loss until the wound can be thoroughly addressed in hospital.

The idea for the iTClamp came from Dr. Dennis Fillips, a retired combat trauma surgeon. Dr. Fillips shared his vision with Dr. Ian Atkinson, a lifelong friend with considerable experience in biotech product development. In time, they approached RDC's Centre for Innovation in Manufacturing to help translate their 3D CAD drawings into 3D printer-generated working prototype components.

"It wasn't as simple as having an idea and knowing exactly what the final device would look like," said Atkinson. "We needed to assess the form, fit and function of each of the different prototypes." The iterative design-build-test process produced 34 different 3D print prototypes over approximately nine months. "With only subtle changes, the final iterations from the 3D prototypes were ultimately used to make our production molds."

Today the iTClamp has been approved for sale as a class-two medical device (prescription only) throughout North America, Europe and Australia. "We've sold tens of thousands of units in a market that spans 30 countries," says Atkinson, who expects sales to grow exponentially once this new technology has had the chance to prove itself again and again in the field.

"We have 181 cases to date where we've confirmed use of the device has had significant impact on patient outcome," says

Atkinson. One such case involved a patient with a carotid artery injury. The individual collapsed in the ambulance. Paramedics applied the iTClamp and administered some fluids. By the time the ambulance arrived at the hospital, the patient was sitting up — texting.

Dramatic stories like this one will no doubt inspire medical professionals to add the iTClamp to their inventory of lifesaving equipment. "They just need to know that it works consistently — that it works better than what they're doing right now," says Atkinson. It's only a matter of time.

In the meantime, Dr. Atkinson would like to see emergency medical professionals, including first responders and emergency room nurses trained up in its use.

The iTClamp was designed to be intuitive and is incredibly user-friendly, but training is still critical. While it's proving effective on compressible areas where moderate to severe bleeding is difficult to control (e.g. arms, legs, arm pits, the groin, neck, face and scalp), it doesn't work in the chest or abdomen where you can't generate compression. "We have to be careful that it doesn't get used in areas that it doesn't work," says Atkinson. Sealing off the wound at the surface in those areas of the body would cause the patient to bleed out internally.

Once integrated into formal medical trauma protocols everywhere, the iTClamp is sure to be a game changer in the world of emergency medical treatment. For RDC to have played a part in its development — well that's just cool.

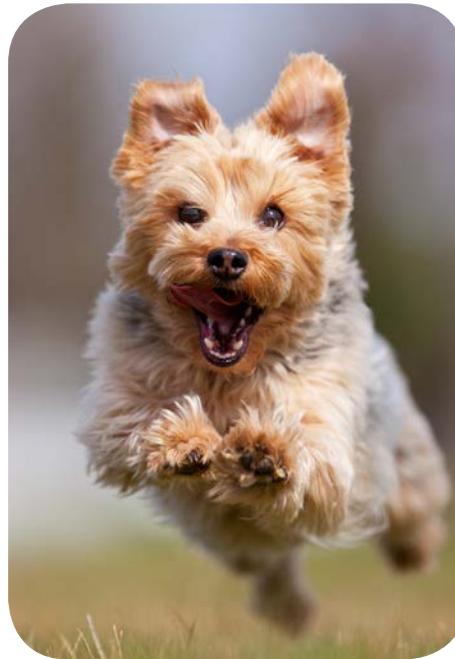
Advanced Veterinary Technology That's For The Dogs

Dogs will be dogs. Given the opportunity, they love to frolic with reckless abandon, leaping over furniture, fence lines, gopher holes, embankments... About three per cent of dogs wind up with debilitating cranial cruciate ligament disease or knee injuries. Small animal veterinary clinics see instances just about every week. Three per cent of millions is a lot of dogs.

Veteran veterinarian Neil Embleton has performed thousands of traditional procedures (Tibial plateau levelling osteotomy (TPLO) and Lateral fabellar suture (LFS)) to repair torn cranial cruciate ligaments in dogs. The TPLO procedure involves cutting bone and changing the biomechanics of the joint forever. It favours kinematics (mobility) over stifle support (joint stability). The LFS helps with stability, but can significantly restrict mobility. While these two procedures have long been considered the golden standard for treatment, "I always thought that we could do better," said Embleton.

It's been seven years since Embleton got together with his surgical partner Veronica Barkowski to brainstorm an alternative procedure that would promote both stifle support and joint mobility. "We thought, if we could come up with something that corrects these two problems without being so invasive and without dramatically changing the architecture of the leg, that would be a good thing."

Unable to find anyone local that did medical engineering, Embleton started working with an automotive engineer in Calgary. "I found a draftsman who thought it was a cool idea and agreed to work with me on it," said Embleton. He took the idea as far he could go with it.



Embleton went to another fellow, and then another. "Finally, sort of at my wits end, I went to Red Deer College, and that's when things really started to move along."

Over the next two-and-a-half years, staff at RDC's Centre for Innovation in Manufacturing applied their engineering expertise and rapid prototype technology to help develop several prototypes for testing. "The last prototype that we made worked beautifully," said Embleton. With just a bit of fine-tuning the device was ready for clinical trials.

The Simitri Stable in Stride™ implant is a three-part, modular device made of surgical grade stainless steel and ultra-high molecular weight polyethylene. It provides joint stability and permits a near normal range of motion. Most dogs are weight-bearing the day after surgery. Strength tests indicate the device should last the lifetime of the animal.

Embleton licensed the technology to a trusted manufacturer (New Generation Devices) out of New Jersey so that he and Barkowski could focus on perfecting the surgical technique and then teaching it to others. "This is a relatively straight forward surgical procedure and the ideal scenario would be to train other veterinarians to perform this in their own clinics," said Embleton. "At the end of the day, I believe this will become the dominant repair technique for canine stifle instability."

Working with RDC's Centre for Innovation in Manufacturing proved a rewarding experience for Embleton. "They were very open and very helpful. So much so that I've already gone back and asked to work with them again on another, related project."



Environment & Ecology

Environment and Ecology is a growing area of applied research at Red Deer College. This research has been lead by Sandra MacDougall and has involved human/wildlife interaction studies. The studies have helped Parks Canada minimize the human/bear interactions in Kluane Park. She is also involved in advising on ways to prevent wildlife-vehicle collisions on Alberta Highways.

Mobile Application Makes Roadkill Meaningful

Alberta's Highway 63 to and from Fort McMurray is a bustling asphalt corridor moving people and equipment from point A to point B. When wildlife unexpectedly enters the fray, as it is apt to do, things can go sideways in a hurry. Approximately 40 per cent of reported collisions along Highway 63 involve wildlife. It's a significant problem and Alberta Transportation is taking an innovative approach to developing solutions.

As part of its wildlife monitoring study connected to the twinning of Highway 63, Alberta Transportation gathered a team of experts, including RDC biology instructor Sandra MacDougall, to develop Alberta Wildlife Watch, a real-time mobile app designed to collect more timely and more accurate data on where, when and what species are being hit. That data can then be used to help inform mitigation measures.

"When you're trying to mitigate collisions, you want to look at where the collision hotspots are," says MacDougall. "And you have to look at how well we are able to collect data on those collision hotspots."

Traditionally in Alberta, accident reports are only filled out if there's more than \$2,000 damage to the vehicle. As a result, experts believe about half of all animal-vehicle collisions on Alberta highways go unreported. Beyond the nebulous numbers, there are challenges with species identification and site-specific information. The average driver isn't necessarily able to differentiate between animal species (i.e. white-tailed deer vs. mule deer), or to pinpoint the collision location based solely on kilometer post markings. And then there's the lag time between when these paper reports are submitted and when the information is entered into the data base. "It typically takes about two years for the information to be input into the system," says MacDougall.

The Alberta Wildlife Watch app, which is geared specifically for use by highway service contractors for now, has all the answers in real time.

"When highway service workers get called out to a carcass on the road they can use the app to lock in an exact GPS location," explains MacDougall. "There's a long list of animal species complete with images at-the-ready to help with species identification." And if there's any lingering doubt about exact species (roadkill can be messy), "Workers can use their Smartphone camera capabilities to take and send a snapshot for positive identification by a biologist back at the data collection centre."

"I'm very excited to have the opportunity to be involved in this," says MacDougall regarding her advisory role on the project. "I think this is going to help save lives and make passages safer for wildlife, so it's a win-win."

Alberta Transportation's project lead Stephen Legaree, sees the potential for wins extending across the province: "The application was built with provincial rollout in mind. Should the program work as expected on Highway 63 the product will be handed to our Environmental Management Services group for evaluation as a provincial tool."

Animal-vehicle collisions are a significant problem in Alberta. Now with the Alberta Wildlife Watch mobile app, roadkill itself will have significance as it helps inform safety measures for motorists and wildlife.





Alberta Health and Research

The Health Research Collaborative (HRC) is an applied research initiative developed between Red Deer College and Alberta Health Services. The HRC is Chaired by Dr. Scott Oddie, Director of Primary Care Research, AHS Applied Research and Evaluation Services. Our goal is to achieve excellence in collaborative applied research that effectively addresses health issues, improves health outcomes, and builds capacity for evidence-informed planning and decision making.

Move Your Mood

Regular physical activity can make us feel better. It can put us in a better mood. It can invigorate our bodies (give us energy), quiet our minds (improve our ability to concentrate and sleep), eradicate boredom, stave off depression, and bolster our ability to cope with stress and anxiety. Through exercise, each of us can work to bring about life-changing transformation on the inside, improving our state of mind and subsequently, our state of being. The power of physical activity is the focus behind Move Your Mood: a locally spawned, community supported, and now provincially funded program for youth accessing mental health services in the Red Deer area.

As a certified exercise physiologist with a background in health promotion, Alberta Health Services' Denise Fredeen had read a lot of research connecting physical activity and mental wellness in adults, but there was a noticeable gap in the area concerning kids and youth. She approached Dr. Scott Oddie and the Health Research Collaborative to study the benefits of physical activity on young people's state of mind, with a focus on those already accessing mental health support services locally.

"The majority of participants in the Move Your Mood program are teenagers," said Fredeen. Adolescence can be difficult, and coping with stress, anxiety and depression is a common challenge among this clientele. By introducing a program of fun and engaging physical activities geared toward their interests (e.g. yoga, glow zumba, bumper balls, golf, weight lifting, etc.), the Move Your Mood pilot program hoped to build a sense of strength, capability, confidence and resiliency.

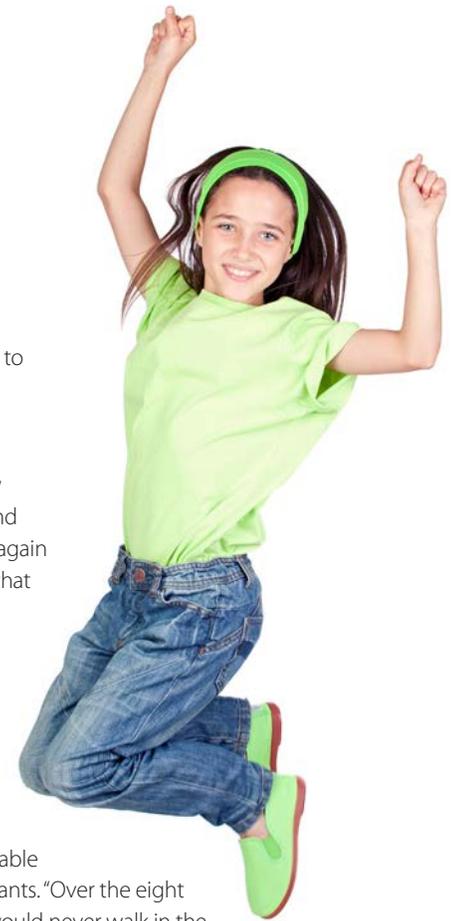
Referred to the eight-week Move Your Mood program by their mental health therapist, willing participants were encouraged to engage in moderate to high levels of fun physical activity for 45–60 minutes three times a week: twice in an organized session one-on-one with a Move Your Mood leader or in a group, and once more on their own or with their families. The City of Red Deer kicked in free passes to its recreation facilities. RDC provided bus fare (as needed) and individual incentives to spur motivation.

Researchers used several tools to measure the affect of physical activity on the participants' mental wellness, including a brief questionnaire about how they were feeling (i.e. mood and stress levels) before, and then again after each session. "We found that their coping skills improved significantly at four weeks and their depression significantly improved by the eight-week mark," said Fredeen.

Beyond all the measurements and data collection, Fredeen saw a palpable shift in the mindset of participants. "Over the eight weeks they had gone from 'I would never walk in the door' [of a weight room or a fitness facility], to 'I know what to do here.'" In making the effort to step outside of their comfort zone and try new activities, they gained self-confidence. Over the course of the eight weeks they also gained many social skills. And while, at the beginning of the program their motivation to exercise had been entirely external, they now owned that motivation — intrinsically.

The pilot was such a success that Alberta Health Services has adopted the Move Your Mood program in Red Deer and area, funding it through the Children's Mental Health Plan.

"They used the evidence that we generated from this research to actually provide funding for a sustainable program," said Dr. Scott Oddie. "That's what I love about the Health Research Collaborative's approach: the front-end engagement really supports knowledge transfer, and the evidence we generate can be used to improve health in the community."



Collaboration Proves Effective

Working together, as a community of health care professionals, is a good thing for everyone concerned. That's the premise behind Red Deer Primary Care Network (PCN) where physicians, a PCN family nurse, a PCN mental health counselor, a PCN pharmacist and medical office assistants work together in the same medical clinic to leverage resources, increase patient access and coordinate a whole-health team approach to patient care.

In principle this kind of collaboration makes good sense, but with the provincial government set to introduce more standard reporting criteria in the area of primary care service delivery, health team effectiveness becomes an accountability piece and actually needs to be measured. Red Deer PCN put together an online survey instrument to gauge health team effectiveness in anticipation of those more robust reporting standards. The organization then turned to Red Deer College (RDC) to assess results and substantiate the survey's reliability as a research tool.

The resulting applied research project, sponsored by the Health Research Collaborative, became an independent study project for fourth-year psychology student, Amy Krasowski. She worked as co-investigator alongside principal investigator Reiko Yeap, Health Research Collaborative Chair and co-investigator Scott Oddie, and client/co-investigator Donna Thompson with Red Deer PCN.

"The student performed a literature review and was involved in survey development, data collection and analysis, and work around feedback on the tool itself," said Thompson.

"We saw her as a co-researcher on the team throughout the program," said Yeap. "That's a pretty unique opportunity for an undergraduate student."



"For me it was both an educational and rewarding experience," said Krasowski. "I was able to be part of a great research team that helped contribute to positive changes carrying forward in the community."

This kind of applied research project exemplifies the potential for multiple wins through collaboration.

For RDC faculty, there's a great sense of satisfaction that comes from being able to provide this kind of real-world learning opportunity to students while at the same time delivering value-tested results that will positively influence health and wellness in the community. For the Red Deer PCN it means access to expertise in applied research, heightened confidence in survey design and analysis, and the capacity to report on accountability measures. And for the broader medical community, it points to opportunities for building stronger, even more effective health care delivery teams.

The project determined the Red Deer PCN's 45-question Health Team Effectiveness Survey is in fact a very reliable measurement tool. The survey revealed a positive correlation between work satisfaction and health team effectiveness, and can be expected to deliver consistently reliable results each time it is administered.

"We wanted to use the survey to build on the strengths within existing clinic teams and to obtain feedback on the survey tool to see if it might be applicable to future needs in primary care," said Thompson. "We will definitely be taking the information forward, and sharing it with other PCNs in the province."

PAL Program Brings a New Perspective to Students

One of the best features of Red Deer is how a whole community can come together to accomplish a program that benefits all. The Physical Activity Leadership (PAL) program was no exception as all of the partners involved recognized the many benefits of collaboration right from the planning stage.

Program creator, Mark Jones, student researcher Shannah Dutrisac, principle investigator Dr. Anomi Bearden and the Rural Health Research Chair/Co-investigator Dr. Scott Oddie worked together with individuals across various groups to design and create a program that would bring more joy in physical activity to local students in grades 4 and 5. The PAL program saw participating schools receive funding for equipment as well as the time and skills of top kinesiology and education students to help teachers and schools build capacity for physical literacy.

Rob Weddell, PAL's project lead and Kinesiology instructor at Red Deer College, defines physical literacy as having confidence in performing physical activity movements. If a child is confident in one aspect of movement, then physical literacy opens the door to a healthier lifestyle, and other activities the child may want to participate in later. Ultimately, physical literacy enhances a child's self-esteem and wellness.

The PAL program ran in the 2012–2013 school year and was considered to be a huge success for both teachers and students. In reviewing the results, it was noted that student's negative attitudes to physical activity decreased.

In addition, students experienced a boost in self-confidence. By learning correct movements through the PAL program, the students were able to believe in themselves and know they could do it. The hope is that this positive experience will lead to an increase of physical activity and wellness in the students' futures.

Other key findings for students included increased motivation to engage in physical activities as well as a change in students' mindset with regards to why they should engage in physical activity. Students shifted their reason for being active from outside pressures, such as parents and teachers telling them to move, to internal beliefs where they personally value, enjoy and understand the benefits.

"It was nice to see that what we were doing wasn't just impacting academia research," said Shannah Dutrisac. "We were able to be in the community and could see the positive impact it was having on the children."

The teachers experienced their own benefits from participating in the program. While the research showed that teachers already held a positive attitude about physical activity and had a high motivation to exercise, they were able to receive new activity ideas as well as additional resources and equipment.

The PAL program was a result of a partnership between Red Deer College, the Health Research Collaborative (RDC and Alberta Health Services), Red Deer Primary Care Network (PCN), and Red Deer's public and separate school districts.



Supporting Grass Roots in Our Own Backyard

Six years ago in the town of Olds, a small group of women was engaged in a candid conversation about death and dying. Recalling the varying experiences of their loved ones, they concluded that a hospice environment can foster calm, comfort and support during the inevitable end-of-life journey. That conversation seeded the idea of opening a hospice within their community. They had the will. They just needed to find the way.

“We know our community, and common sense dictated what was needed here,” said Charlene Schramm, now Treasurer of Olds & District Hospice Society. “But we needed something credible — something arm’s length that would ascertain the need.”

A research-based feasibility study would cost thousands of dollars. This grass roots initiative didn’t have a budget. So the women set off in search of alternate resources. They obtained a copy of a community survey that was done for Foothills Hospice in Okotoks, and then they found Dr. Scott Oddie and the Health Research Collaborative at RDC.

“None of us knew how to do this sort of thing, so when we met Scott it all started to come together and we were so excited,” said Schramm. “They understood what we were wanting to do and helped us right from the beginning.”

That help included direction on questions that needed to be addressed right away; things like what communities would be covered and how best to reach everyone within those areas. Once the women had determined who would receive the survey, and how, Dr. Oddie’s team set to work on the administrative, technical end of things.

“They linked us up with an existing survey tool [Survey Monkey] to get the survey online, and then afterwards they compiled a document and presentation with the stats for us, pulling out all the demographic information and quotes,” said Schramm. “They did all of that for us. It was awesome.”



The results of the “Hearts for Hospice” survey were not much of a surprise to the women who spearheaded it. “People saw this was important,” said Kathy Kemmere, a founding member and current Vice President of the Olds & District Hospice Society. “There was a gap and every indication that we should move forward.”

The learnings that arose through the experience itself... well those proved to be far less predictable.

“The early connection with Dr. Wasylenko at Foothills Hospice in Okotoks set a precedent for us on sharing information,” said Schramm. Beyond providing the original survey questions, Okotoks forwarded all their bylaws, policies and procedures to help the Society get started. The women are paying it forward now, and have already shared their journey with 10 communities across Alberta.

“And then there was the role of Dr. Oddie and Red Deer College,” said Schramm. “It set a precedent for being fiscally responsible, and for us knowing there are out-of-the-box ways of doing things.”

Following the survey, the Olds & District Hospice Society successfully pursued a public-private partnership with a supported living facility in Olds, and has recently celebrated the opening of two dedicated hospice suites in that community.



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Nine Tenths of Education is Encouragement

Applied Research and Innovation understands the dedication it takes to succeed in College and find that career that makes our students shine. We are proud to be partners with our innovative instructors to provide real world learning opportunities that allow our students to put their best foot forward in a rewarding career.



DREW DECLERCK
BA Psychology, 2012

Foundational

When I heard that doing an independent research project would help me get into grad school, I applied to the program. It was a great decision. RDC definitely launched my career.

While in the program I was introduced to a lot of the faculty members, and I was able to develop some pretty strong relationships with them. I received one-on-one mentorship in how to conduct research, and the whole experience helped me develop some great skills that made me a stronger independent researcher. Through that work I also made all sorts of connections in the community, and at the end of it all, I was able to build a really solid resume when I applied to grad school.

Clinical psychology is a very competitive program and I know it was the strength of my resume and the support from RDC faculty that got me into grad school at the University of British Columbia. I'll be defending my Masters thesis this summer and have already been accepted into their PhD program for September. Once I have my PhD I'll likely go into a role as a clinician.



LISA ARMSTRONG
BA Psychology, 2014

Influential

I started college thinking I would be a journalist, but my first-year psychology class was so interesting that I immediately changed my mind, and my focus.

By the time I was in my fourth year, doing my independent research project, I found myself a contributing member on an inter-disciplinary team of doctors, community members, and Alberta Health Services' directors and managers. That was an incredible opportunity and an amazing learning experience.

As an undergrad, I was making valuable connections with professionals in the field, conducting important research alongside them, and seeing the tangible effects that research could potentially have.

It's so amazing that our relatively small community college offers this opportunity to do such high-caliber research. And when the time comes for me to apply for grad school, I know I'll be getting support — and references, from my network of influence at RDC.



RAYNA NEWTON
BA Psychology, 2011

Relevant

After graduation I was trying to decide what to do next. I had earned my Bachelor of Arts in psychology. There are so many directions you can go with that degree. Then I saw this job posting at the College.

They were looking for someone with almost all the skills that I had just learned, and exactly the kind of experience I had acquired during my fourth-year independent research study. My education and experience made me a perfect fit for my current job as the project coordinator in the Institutional Research department at RDC.

From learning a statistical software program to knowing what questions to ask when conducting research, to designing effective questionnaires, conducting statistical analysis and presenting the findings: these are skills I learned during my degree and now use every day in my job.

I'm considering furthering my education with graduate studies and have no doubt that the skills I've learned and my experience are going to bode well for me as future opportunities present themselves.



SHANNAH DUTRISAC
Bachelor of Arts, 2013

Advantageous

I plan to go on to graduate studies in clinical neuropsychology and to do this, research experience is an asset. That's why I chose to do a thesis-based research study in my fourth year at RDC. It's also part of why I stayed on at the College after graduation to work in my present position as a research technician. When I do apply to grad school down the road, I want to be one of those applicants who really stands out because of my experience.

There's a real sense of community here at RDC. You really get to know your supervisors and all the other students in your seminar group. As a research student, there's a level of support that you may not necessarily find at a bigger institution, and because of that I am grateful for my RDC experience



JAMES SANTIAGO
Mechanical Engineering
Technology, 2014

Practical

One of my instructors recommended me for a job as an applied research technician at the school. I was in my second year of study and wanted part-time work so it was great for me. There's a big correlation between what I was learning and my job, which was to operate and maintain the 3-D printer in Applied Research. I also repaired some of their related equipment. I understood how it all worked and how to fix it.

The work gave me good exposure regarding how to deal with clients as well. Applied Research has clients who ask for design work. I would meet with those clients and design what they wanted.

The whole experience opened my thinking to a larger industry. I learned about how the industry is booming, both locally and internationally, and how having knowledge in the latest technology really makes me marketable. I am now taking a second certification in Electrical Engineering Technology. I had never thought of electrical before, but here I am.



CALLY STRANDQUIST
BA Psychology, 2010

Experiential

I am not a city girl. I'm from Stettler and wanted to stay close to home to do my studies. RDC offered small class sizes and an environment where the instructors get to know you by name. It was a great fit for me personally, and an excellent choice academically.

I applied to the fourth year independent study program because I wanted to expand my horizons for the future. I knew I wanted to go on to grad school and I heard this program can give you an edge in what can be a highly competitive field.

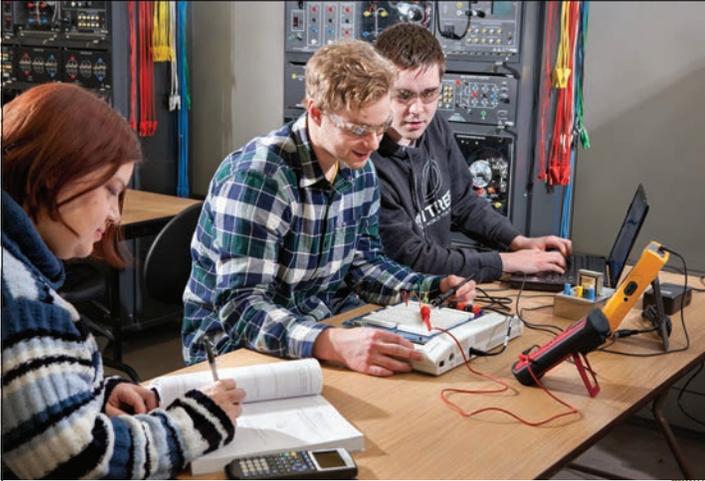
You do your own research. You write a proposal. You collect, run and analyze your own stats. And then you write a comprehensive report at the end and present your research. It's hard work but totally worth it in the end. Your work gets published. That's pretty amazing as an undergraduate student.

I wouldn't trade the RDC experience for anything. I really enjoyed it and am really proud of what I've accomplished. I've been accepted into grad school starting this September, and I feel confident that I'm ready.

Synopsis of Applied Health Research Projects from 2012 - 2015

<p>Assistive technology for people with intellectual disabilities</p>	<ul style="list-style-type: none"> • Enhancing the independence of people with intellectual disabilities using iPods and a specialized application to help users complete tasks of in their everyday life. • Trials indicated users were happy with improved independence, increased confidence, and the social aspect of fitting in with their new technology.
<p>Evidence Synthesis Support Opportunity</p>	<ul style="list-style-type: none"> • Evaluation capacity building project enhances the use of health outcome based measures of programs aligned with participating Primary Care Networks (PCN). Provided eleven central and north zone PCNs with access to a patient self-reported functional health status measure. • Provided opportunities for training on data analysis and report generation.
<p>Inter-Facility Clinical Handover Improvement</p>	<ul style="list-style-type: none"> • Observation of EMS and Emergency Department Nurses on how the handover process (transfer of professional responsibility and accountability of patients) is conducted. • An iSoBAR tool was implemented and evaluated using pre and post surveys of participating staff. The tool set a standardized method in the process and was later adapted by a central Alberta centre.
<p>Aboriginal Prenatal Program Evaluation</p>	<ul style="list-style-type: none"> • Qualitative evaluation of the Wetaskiwin and Area PCN Aboriginal Prenatal Program that examined access, cultural appropriateness and barriers to wellness. • Program participants provided program feedback through structured sharing circles and anonymous online surveys. Feedback indicated that the program was very successful and identified enhancements to transportation.
<p>Child Rehabilitation Service Navigation</p>	<ul style="list-style-type: none"> • Allied Health Services for Children in the Central Zone developed a new navigation strategy that allows for a more unified and supported path for parents and their children from referral to service delivery. • The strategy included redeveloping intake services, and the addition of therapist coached strategies and a pediatric resource coordinator (PRC) to the intake team. • This study demonstrated significant improvements in wait times and satisfaction with intake by parents and therapists.

<p>Impact of Dementia Simulation</p>	<ul style="list-style-type: none"> • With an aim to assess the attitudes of RDC students, caregivers and family members towards dementia, a Virtual Dementia Tour was created. Students, caregivers and family members experienced the virtual simulation that provided participants with the experience of having significant dementia. The impact on attitudes towards dementia was assessed. • Experiencing the Virtual Dementia Tour increased empathy in participants, understanding of what individuals with Dementia may experience on a daily basis, and knowledge about what it's like to have Dementia.
<p>PCN Measurement Capacity Initiative (MCI)</p>	<ul style="list-style-type: none"> • Collaborative projects to support our mission to develop, assess and implement common quality and outcome measures and innovations in primary health care. • MCI focuses on developing procedures and methods (through "Plan, Do, Study, Act" cycles) that support the application of the primary health care strategy and evaluation framework, and PHC indicators within Medical Homes (PCNs, FCCs, and individual clinics). • MCI is engaging executive directors, managers, health care providers, evaluators, quality facilitators, analysts and their teams to advance evaluation/measurement capacity and business planning in Alberta.
<p>Readiness for Change and Self-Efficacy as Predictors for Successful Behavior Change in a Chronic Disease Program</p>	<ul style="list-style-type: none"> • The Health Basics program was very successful at improving indicators of health status for participants but measures of self-efficacy and stage of readiness to change behaviour were not significant predictors of success. • Barriers that prevented referrals to the program included illness and access.
<p>Sexual Assault: Identifying Knowledge Needs Regarding Offenders & Strategies for Prevention</p>	<ul style="list-style-type: none"> • A literature review was used to identify the gaps, barriers and priorities for programming in central Alberta with a focus on those committing sexual assault.
<p>Sexual Assault: Identifying Knowledge Needs Regarding Victims & Strategies for Prevention</p>	<ul style="list-style-type: none"> • A literature review examined sexual assault prevention programs in elementary, junior high, and high schools with an aim to provide evidence to inform central Alberta programs that reduce the risk of sexual victimization.



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