

What Makes This Research Cluster a Leader

The University of Regina is one of the top 10 comprehensive universities in Canada for research publication impacts in biomechanics, biochemistry, microbiology and cell physiology (InCites). In the last 5 years, over \$10 million in research grants from Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council (NSERC), Saskatchewan Health Research Foundation (SHRF), Canadian Foundation for Innovation (CFI), and National Institutes of Health (NIH), and Social Sciences and Humanities Research Council of Canada (SSHRC) has been awarded in clinical and biomedical research, including 25 Tri-council grants. This has resulted in 200 peer reviewed journal articles, 17 book publications and the training of 172 Highly Qualified Personnel.

Our researchers have a long tradition of population and Indigenous health research on the social and economic determinants of health inequities and the development of community-based interventions. Along with \$5.25 million in core and team grant funding from SHRF, over the past 13 years the Saskatchewan Population Health and Evaluation Research Unit (SPHERU) leveraged \$36.5 million in external funding for 137 research projects. The Indigenous Peoples' Health Research Centre (IPHRC) began in 2001 with CIHR and Network Environments for Aboriginal Health Research (NEAHR) grants. In the first 13 years, over 30 graduate scholarships and 50 grants were awarded to students, community partners and researchers undertaking indigenous health research.

Researchers from across campus bring unique perspectives and instrumentation: state of the art biomechanics labs, genome and proteome sequencing facilities, microbe and pathogen research facilities (bio-safety level 3), cellular and medical imaging and neurophysiology suites. On the social science side, the cluster is a leading advocate of new and innovative research methods that bring communities into the research process to help understand their own health needs and to design interventions. It has been a leader in engaging Indigenous communities.

This cluster is committed to community engagement. This includes research collaborations with clinicians, physicians, nurses and community health workers in the Regina Qu'appelle Health Region (RQHR), and the Saskatchewan Disease Control Laboratory (SDCL). SPHERU and IPHRC coordinate researchers at multiple sites and institutions across the province, and have gained national and international recognition for community-based population health research in rural, northern, aboriginal and children's health.

Research Impact

In addition to traditional metrics, the cluster emphasizes non-traditional measures of success: influencing changes in policy, program, health care and clinical practice, and creating community capacity that empowers it to change its own health outcomes. The increased emphasis on non-traditional means of dissemination via social media, as well as the creation of research products aimed directly at community members, policy makers and those with the ability to implement change, ensures basic research is translated into practical health solutions.

Critical Mass of Highly Qualified Personnel (HQP)

In addition to HQP trainees, there are over 40 principal investigators. Eighteen post-doctoral fellows, 40 PhD students, and more than 125 graduate-level students have been funded or employed through research initiatives. Sixty undergraduate students and 26 NSERC students have been funded. Dozens of project staff positions have been created, and many projects have employed community-based research assistants.

Interdisciplinary Research

The research units are the embodiment of interdisciplinary collaboration. Collaborations range from wet bench research to epidemiological health research, and span a variety of departments (e.g. Biology, Biochemistry) and faculties (Science, Kinesiology and Health Studies, Arts, Social Work) across campus and Regina (e.g. SDCL, RQHR).

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UNIVERSITY OF REGINA RESEARCH CLUSTERS 2016-2021 Alignment with the Saskatchewan Plan for Growth

Research encompasses creative endeavours and other scholarly activities that foster new knowledge. Critical to the University's success are its research clusters, which have been identified as a function of their critical mass (highly-qualified personnel), performance (impact) and distinctiveness:

| Anxiety, Stress & Pain | Water, Environment & Clean Energy |
| Digital Future | Social Justice & Community Safety |
| Integrated Human Health: Equity, Disease & Prevention |

Integrated Human Health Research Cluster

This cluster develops and disseminates research knowledge to improve the health of Canadians. Researchers perform clinical, bio-medical, population and Indigenous health research, using methodologies from the natural, clinical and social sciences. Canadians have variations in health outcomes across social, economic, geographic, ethnic and racial divides that pose challenges for equitable disease treatment, prevention, health care access and health promotion.

This integrated health approach focuses on traditional biochemical/biomedical research, but also investigates societal and population aspects of health. Aspects include the social, economic and political conditions that lead to inequalities between population groups, and the design, implementation and evaluation of interventions that can improve health outcomes (e.g. health promotion and prevention). Such groups are typically distinguished by income, gender, education, geography, ethnicity, aboriginal status and housing.

The cluster serves as a focal point for promoting interactions between researchers and clinicians, and provides a resource for local community interactions and information on health research. It serves to train and educate health care providers, health policy makers and health researchers. High quality trainees are developed through exposure to the integrated health approach, where the trainee is exposed not only to the biochemistry of the disease, but also to the wider determinants of health.

UNIVERSITY OF REGINA'S INTEGRATED HUMAN HEALTH RESEARCH CLUSTER ALIGNMENT WITH THE SASKATCHEWAN PLAN FOR GROWTH

The Saskatchewan Plan for Growth sets out the Government's vision for a province of 1.2 million people by 2020. The Integrated Human Health Research Cluster aligns with 4 of the 6 Core Growth Activities identified by Government to foster economic growth and address challenges.

Growth Activity	How the Integrated Human Health Research Cluster Aligns with Growth Activity
<p>Growing and Developing Saskatchewan's Labour Force</p> <p>Ensuring Ongoing Competitiveness of Saskatchewan's Economy</p>	<ul style="list-style-type: none"> • our research on the reduction of health inequities across populations is essential for full participation in the labour market. Examples: improving respiratory health in First Nations populations, Aboriginal mental health promotion, workplace empowerment of nurses, supports for adults with Fetal Alcohol Syndrome Disorder, and impact of trauma and health care experiences on socio-economic status • research alleviates costs and restrictions to growing the labor force, accomplished via ground breaking research in cardiovascular diseases, protein mapping of neurological diseases, biomechanical studies of gait, and rehabilitation • health equity researchers provide training for undergraduate research assistants, and Master and Doctoral level training for graduate students. This increases research and intellectual capacity, which leads to increased research dollars and international recognition of health research excellence in Saskatchewan, and improved health outcomes across the province and within sub-populations • exposing medical, nursing and physiologist students, and future health care workers to cutting edge technology and research programs results in new and innovative forms of care

Growth Activity	How the Integrated Human Health Research Cluster Aligns with Growth Activity
<p>Connecting Saskatchewan to the World</p>	<ul style="list-style-type: none"> • researchers publish in leading international journals (e.g. The Lancet, Critical Public Health), and they are taking their Saskatchewan based research to the world through participation in major international conferences and symposia • examples of international collaboration include our research on health outcomes in developing nations, and on the Urban Health Survey. Research with the Shastri Institute and the development of the federal seniors' strategy have strong international components

Growth Activity	How the Integrated Human Health Research Cluster Aligns with Growth Activity
<p>Ensuring Fiscal Responsibility Through Balanced Budgets, Lower Debt, Smaller More Effective Government</p>	<ul style="list-style-type: none"> • it is more expensive to treat the outcomes of health inequities (e.g. injury, disease, lower educational attainment) than to develop upstream interventions that ameliorate conditions before they become 'health care' issues. Our health equity researchers reduce the reliance on the health care system, and this results in significant cost savings • research on healthy aging in place aims to reduce barriers that force rural seniors to leave their homes, which increases the demand for institutional care. Multifaceted research programs around healthy aging focus on improving seniors health in a manner that reduces dependency on health system interventions