



**Ryerson
University**

Health Strategy
MAY 2020

Context

Ryerson University has commissioned Spindle – a management consulting firm focused on the academic research sector – to develop a pan-institutional health strategy, aimed at coordinating and synergizing the university’s health-related assets and maximizing its impact in the health sector.

Ryerson’s health strategy is substantiated by market intelligence, bibliometric data and insights gleaned from consultations with approximately 50 Ryerson health researchers and administrators and over 20 external leaders in the health sector. This information is captured in Spindle’s Internal Findings Report and the External Environmental Scan Report, which were confidentially released to Ryerson consultees in February and April of 2020.



Identity and Approach

Ryerson University bears a sense of immediate accountability toward the vitality and prosperity of its community and recognizes people as the rightful architects of the health and wellbeing system. This identity underpins the university's distinct approach to scholarly, research and creative activities (SRC) in the health and wellbeing field and is characterized by deep collaboration with community members and reciprocal value generation, for instance through research-based service.

As a university, Ryerson is distinctly solution-oriented and its SRC enterprise is embedded in human-centred design principles and practices. In the health field, this ethos and methodology is reflected in the work of establishments like iBEST at St. Michael's Hospital, which integrates Ryerson's engineering know-how with a practical understanding of clinical needs to design and vet valuable biomedical tools. The Daphne Cockwell Health Sciences Complex is another example of Ryerson's applied edge in health, housing clinical experience and high-fidelity simulation suites as well as a creative technology lab to provide Ryerson students with unique opportunities for real-world learning and problem-solving.

Expertise and Track Record

Ryerson University has fostered a strong foundation for education and scholarship across many dimensions of the health field. Pillars of recognized excellence in health are spread across Ryerson's various faculties, schools and departments. For example, the departments of Psychology, Nursing, Social Work, Occupational Health and Safety, Biomedical Engineering, as well as Biology and Chemistry are all major contributors to Ryerson's regional and national presence in the health and wellbeing field, based on their magnitude of research

expenditures and undergraduate/graduate student enrollment. Additionally, a comparative analysis of Ryerson's publication output and impact over the last 10 years reveals a wide range of research strengths including in mental health and personal wellbeing; community health; food and nutrition; environmental health; public and occupational health; cell, molecular and microbial biology; biomaterials and biomedical devices; biomedical optics; digital systems and data; health systems and health services policy; as well as healthcare models.

Areas of Research Expertise in Health



A key driver of Ryerson's health strategy is the effective integration of the university's numerous areas of health-related expertise to address pressing and persistent societal needs.

Strategy for Health



Building on its impact-driven, person-centred approach to research and scholarship and its distinct presence in Toronto's downtown core, Ryerson University will embrace an urban health and wellbeing focus, addressing unique health challenges brought on by rapid growth, high population density, cultural diversity and socio-economic disparity in existing and emerging urban centres. Ryerson will transform cities into cohesive health ecosystems, where scientific findings, high quality accessible clinical care, community-based services, and home health solutions seamlessly intersect around individuals' and families' needs and comforts.

Ryerson Urban Health and Wellbeing

Ryerson will create a new purpose-driven Urban Health and Wellbeing nexus to bring to bear the university's expansive expertise across the health and wellbeing field. The Urban Health and Wellbeing nexus will be underpinned by academic and institutional leadership, necessary administrative capabilities and a novel people-powered partnership model to galvanize and inspire the co-development of talent, the co-design of solutions and the co-delivery of services that address real-world health challenges and needs at vulnerable intersections in urban communities.

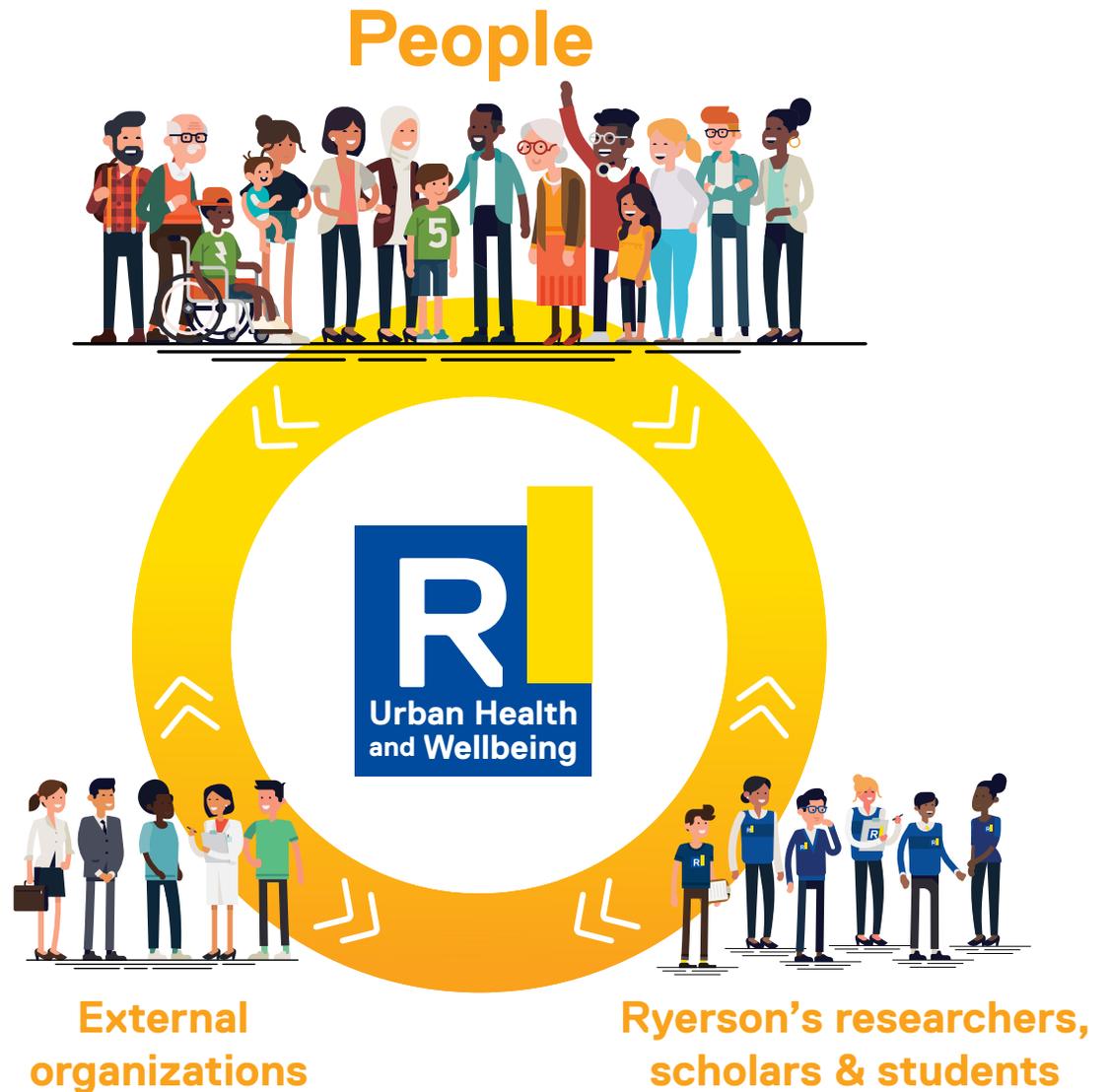


People-Powered Partnership Model

Ryerson's Urban Health and Wellbeing nexus will employ a unique three-way partnership model to facilitate the meaningful participation of community members and health organizations in the university's health mission. SRC initiatives struck by Ryerson Urban Health and Wellbeing will bring together:

- People (individual community members and families) who need/access health solutions
- Ryerson researchers, scholars, as well as undergraduate and graduate students
- External organizational partners working in the broader health domain, including academic hospitals, community hospitals, community clinics, private health service providers, care homes and community organizations, charitable and health advocacy groups as well as health tech companies

Where possible, Ryerson Urban Health and Wellbeing initiatives will be embedded within physical community-facing structures to optimize Ryerson's engagement with partners and meet and address community members' needs in their local environments.





The Urban Health and Wellbeing nexus will articulate concrete and complex urban health challenges (across biological, behavioural, psychosocial, environmental, clinical, policy and institutional dimensions), facilitating transformative and collaborative foundational or applied SRC. Research initiatives will be predicated on a human-centred framework of engagement, the co-development of methods and solutions as well as the iterative exchange of knowledge and know-how among Ryerson investigators and people partners. The Urban Health and Wellbeing nexus will bring legal, ethical, administrative and financial capabilities as well as standardized guidelines and policies to facilitate the genesis of pilot projects, the formalization of partnerships and the establishment of appropriate research governance models and processes to align with the unique needs of each program and its key partner groups.

Beyond interdisciplinary research programs, the Urban Health and Wellbeing nexus will give rise to innovation projects focused on the development of policies, products and services to address high priority needs in urban centres. Innovation projects will be founded on standardized user-centred design methodologies such that the ultimate health needs and goals of people and organizational partners will drive the solution development and maturation process. This health innovation platform will bring opportunities for student entrepreneurship and innovation training, as well as co-curricular innovation-focused activities in real-world clinical, industrial, community or home settings, leveraging Ryerson's specialized business administration expertise within the health sector.



Through its research and innovation initiatives, the Urban Health and Wellbeing nexus will embrace and elevate Ryerson's ethos of reciprocal value generation, bringing people access to evidence-based co-created solutions ranging from knowledge, frameworks and policies to products, practices and

services. Service delivery will be supported by administrative capacities for partner engagement and relationship management, including the negotiation of benefit structures, and where appropriate, will entail the mobilization of Ryerson's developing student talent in the context of practicums or other training opportunities.



The Urban Health and Wellbeing nexus will articulate a needs-based framework to inspire the development of new graduate programs, courses and certificate programs, drawing from a multitude of Ryerson's health expertise pillars. The formalization of partnerships through SRC

initiatives will help to systematize opportunities for work-embedded learning, career development and leadership training in the health sector (coops, internships, practicums and innovation challenges) that are of mutual benefit to Ryerson students and urban health partners.

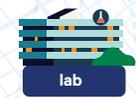
Priority Areas

To create fully-interconnected, person-centred urban health ecosystems, work at the Urban Health and Wellbeing nexus will focus on four key areas of need at the intersections of home and community, community and hospital, hospital and lab and finally lab and home.

1. Fostering Healthy Urban Living



2. Improving Healthcare Access and Connectivity in the City



4. Transforming Home and Self-Care with Technology

3. Understanding and Combating Disease with a “Cell to Society” Lens

1.

Fostering Healthy Urban Living

AT THE INTERSECTION OF HOME AND COMMUNITY

Within this priority area, Ryerson will bring its health experts together with community service providers (for instance community living or assisted living organizations, gyms, pharmacies, community centres etc.), and most importantly people, to promote social and physical health and personal wellbeing in daily life. Partners will work together to collaboratively identify daily real-world health challenges faced by people in their neighbourhoods and living environments, including but not limited to the financial aspects of managing health, access to healthy living resources and implements, and the ability to fulfill professional health advice. Partners will co-develop research-based policies, services, community programs and technological

solutions to promote healthy behaviours and improve individuals' quality of life within their personal, cultural and social contexts.

At the intersection of community and home, the Urban Health and Wellbeing nexus will nurture the development of a future-ready urban health workforce. For example, training specialized health experts (with public health, occupational health, mental health, clinical, and personal support worker skills) who are adept at facilitating prevention and healthy living for individuals and families with distinct needs like the elderly, disabled peoples, new mothers and babies, immigrant and refugee groups and Indigenous community members.

A key opportunity within this priority area is the establishment of a fully-integrated student wellbeing centre on the Ryerson campus – an innovative collaborative structure for conducting wellness research, generating and testing innovations, establishing appropriate institutional policies, and delivering evidence-based services and tools with and for Ryerson's student body. The centre would not only provide Ryerson students with exciting opportunities for professional and research training, it would also bring access to leading home-spun innovations to maximize student mental health and academic success.

2.

Improving Healthcare Access and Connectivity in the City

AT THE INTERSECTION OF COMMUNITY AND HOSPITAL

This priority area focuses on the provision of person-centred holistic care that is seamless, on-point and responsive from the hospital all the way to the community setting. At the intersection of community and hospital, research, innovation and educational initiatives will coalesce unique multi-partner networks including Ryerson health experts from different disciplinary domains, community member partners, as well as healthcare and community organizations (for instance those under the umbrella of the nascent East Toronto Ontario Health Partners), to optimize health service

integration across a range of providers and improve the healthcare experience for individuals and families.

To advance this priority area, initiatives will articulate frameworks and solutions for understanding the needs of community members, helping them to access the type of prevention and care services that they want, where they want. Together, Ryerson researchers and their partners will develop “precision policies” related to public health and health risk monitoring to protect and promote the wellbeing of

communities based on their particular vulnerabilities and predispositions. SRC in this priority area will also contribute to the evaluation of community and population outcomes brought about as a result of holistic and coordinated health promotion and healthcare delivery, and provide insights regarding capacity planning (the right mix of health professionals, services, beds, skills) to meet the specialized and changing healthcare needs of urban communities.

Additionally, initiatives in this priority area will optimize the interface between

people in need of healthcare services and primary care (as their first entry point into the healthcare system).

For example, creating new ways for community members and primary care clinics to work together to achieve an optimal state of health (i.e., physical, psychological, and social) that is aligned with individual preferences and needs.

The type of partnership model afforded by the Urban Health and Wellbeing nexus will give Ryerson a unique advantage for leading the redesign of the healthcare experience at a formative time in the evolution of the Ontario health system. Especially to usher in holistic, coordinated prevention and care for vulnerable urban populations with complex health trajectories (like people with cancer, children and youth, Indigenous people, individuals suffering

from mental health or addiction issues as well as the elderly).

The intersection of community and hospital presents an optimal training ground for the development of a new generation of healthcare practitioners and health system leaders with a deep understanding of interprofessional, person-centred clinical practice within the urban environment. With appropriate partnerships in place (for instance with an Ontario Health Team collaborative), budding leaders and trainees in nursing, social work, psychology, community care, public health and health communication will have an opportunity to learn and work side-by-side in a truly blended environment powered by information technology. They will develop a unique set of interpersonal skills,

substantial digital literacy and a multi-dimensional system-level perspective to engender an optimal, positive and sensitive healthcare experience for individuals and families across a continuum of settings and providers.

3.

Understanding and Combating Disease with a “Cell to Society” Lens

AT THE INTERSECTION OF HOSPITAL AND LAB

Within this priority area, initiatives will focus on the alleviation of illness and disease through the active incorporation of people, families and caregivers at the nexus of basic science, biomedical technology development and applied health research. SRC in this priority area will bring together unique multi-partner networks consisting of Ryerson health experts from different disciplinary domains, individuals impacted by serious illness, patient advocacy groups and institutional partners (like academic hospitals or research-ready community hospitals) to develop new knowledge and efficacious solutions aimed at combating

illnesses like cancer and infectious disease, where Ryerson has established a track record of excellence.

At the intersection of hospital and lab, Ryerson’s unique tri-directional partnership model will help to unearth nuanced issues and novel solutions from individuals’ real life experiences and lived knowledge. This will provide researchers (including basic biomedical scientists) a direct line of sight into the complexity of challenges faced by people living with serious illness, catalyzing and informing new transdisciplinary educational offerings.

For example, novel graduate degree programs designed to assess and resolve this complexity from its molecular, all the way to its societal dimensions through the application of big data and computer science methodologies.

Ryerson’s people-powered partnership model will also allow for the fostering of more meaningful and long term research and training relationships with clinical experts (for example elevation of the existing collaboration between St. Michael’s hospital and Ryerson at iBEST), as researchers and clinicians work together with the people who are

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experiencing illness, toward a common and tangible goal of improving their quality of life.

Additionally, this distinct person-centred approach will give Ryerson a unique advantage for undertaking powerful and competitive “precision medicine” research programs. Ryerson’s edge in this area of research will be its access to comprehensive volumes of person-level data, contributed by people partners and care providers (ranging from physiological and clinical parameters/outcomes all the way to social, economical, geographical and environmental factors/experiences). The application of Ryerson’s AI and cybersecurity expertise to longitudinal, multi-dimensional health information will further accelerate the development of efficacious and tailored precision medicine solutions.

Transforming Home and Self-care with Technology

AT THE INTERSECTION OF LAB AND HOME

Within this priority area, research and innovation initiatives will bring together Ryerson health experts from different disciplinary domains, care provider organizations, tech companies, and people impacted by health challenges to improve the management of chronic and complex conditions (like asthma, diabetes, cancer, HIV, anxiety, congestive heart failure, chronic obstructive pulmonary disease, organ transplantation, wound care and cognitive decline, as well as chronic mental illness and

substance abuse disorders) with self-care, home-care and remote health technological solutions. At the intersection of lab and home, Ryerson and its organizational and people partners will co-create and test technologies like mobile and web-based apps, internet-accessible community forums and information resources, wearables, digital connectivity tools, remote sensors and point-of-care diagnostics to help individuals and family caregivers support their own healthcare needs at home. Initiatives will also focus

on the development of acceptable and appropriate research and innovation systems, policies and protocols to navigate the privacy, security, economic and ethical issues that emerge as a result of shifting care accountabilities (from care providers at the central care setting to individuals and families in the home setting).

This dimension of work at the Urban Health and Wellbeing nexus presents immense opportunities for expanding Ryerson's innovation and commercialization footprint in health. Strong partnerships with tech companies and tech users will also facilitate the development of systematic health innovation training programs to augment Ryerson's educational offerings in health and wellbeing disciplines, for instance toward a future-forward vision of training "clinician innovators".

Success Pillars

The success of Ryerson's health strategy is predicated on the mobilization of resources and time toward four important pillars:

Partnerships - Ryerson's health strategy has been developed through extensive consultations with potential health system partners (from government and companies to charitable organizations, community care providers and hospital entities). Realization and formalization of meaningful win-win partnerships with consulted or new organizations will be a critical enabler of Ryerson's health strategy.

Graduate programming - An important driving force behind Ryerson's health strategy will be the development of Masters and PhD-level programs that carve novel interdisciplinary niches for Ryerson University in health and at the same time help to deliver highly-educated distinctly career-ready graduates into the local health and wellbeing workforce.

Academic leadership - Grassroots academic leadership to drive a holistic vision for health and wellbeing at Ryerson and a focused trajectory of impact within each of the articulated priority areas will be essential for success.

Dedicated systems - Dedicated administrative, legal and ethical capacities must be put in place to help seed, advance and deliver the envisioned health research, innovation and educational initiatives as well as partnerships and services.

Impact

Ryerson Urban Health and Wellbeing will have a profound impact on the vitality of urban communities, first by shaping the development of future-ready leaders and practitioners who have a unique, multi-dimensional understanding of urban health needs. Ryerson Urban Health and Wellbeing will also improve quality of life and health system efficiencies through the development of user-centred and community-sensitive solutions that effectively promote healthy behaviours and outcomes in diverse city environments. It will help to democratize access to healthcare for all community members, in particular historically disadvantaged groups, through policy, technology and service innovation. Finally, it will facilitate the development of new healthcare technologies, including therapeutics and diagnostics that are not only more efficacious but more precisely suited to specific communities, because they take into consideration the multitude of factors (genetic, physical, ethnic, cultural, psychological, social and environmental) that feed into urban health and wellbeing trajectories.

At Ryerson, this strategy will broaden researchers' fields of influence, increase research fundability, advance Ryerson's ability to produce game-changing innovations in the health field, increase the university's capacity for conducting person-powered research and enhance undergraduate and graduate studentship by offering innovative and impact-focused educational and research opportunities. Additionally, the creation of the Urban Health and Wellness nexus will set the stage for future diversification of Ryerson's professional medical education programs in the context of a well-understood and distinct value proposition. ■

PREPARED BY  spindle

www.spindlestrategy.com • info@spindlestrategy.com