

CIHR INSTITUTE OF
GENDER AND HEALTH



SHAPING SCIENCE FOR A HEALTHIER WORLD

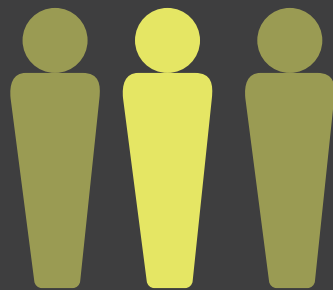
Strategy 2017



Canadian Institutes
of Health Research

Instituts de recherche
en santé du Canada

Canada



In Canada, men die younger than women,
while women experience a heavier burden
of chronic illness. Why?

WE ARE SHAPING SCIENCE FOR A HEALTHIER WORLD

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WELCOME TO
**OUR
STORY**

Imagine if we tested prostate cancer drugs only on female cell samples, or created anti-smoking campaigns only for men.

Does that make sense?

Men, women, girls and boys are similar in many ways but when it comes to our health and well-being, our differences matter.

Every cell is sexed and every person is gendered. Sex and gender influence our risk of developing certain diseases, how well we respond to medical treatments, and how often we seek health care. Did you know that in Canada men typically die younger than women, yet more women than men struggle with chronic illnesses? Why? These are complicated questions. The more we understand how sex and gender affect health, the more we can improve health and well-being for everyone.

It starts with better science.

As part of the Canadian Institutes of Health Research (CIHR), the Institute of Gender and Health fosters research that explores how sex and gender influence health. We use these findings to tackle the biggest health challenges. Our vision includes *everybody* - men, women, girls, boys and gender diverse people.

In 10 years, we've made amazing progress. We've collaborated, questioned, and we've built a community of researchers and knowledge users addressing our most pressing health challenges - integrating sex and gender to spark discovery, innovation and health impact.

Exciting breakthroughs prove that this field is advancing, but there's more to do. That's why IGH is more than a funding institute. Our 2013-2017 strategic plan is focused on Integration, Innovation and Impact. We will transform our health research systems, our research methods, and the outcomes of gender, sex and health research. We are multidisciplinary. We are international. We are putting gender and sex on the health agenda.

We are shaping science for a healthier world.

Have you considered the possibilities?



OUR WORLD



Our story begins in 2012, a year of strategic renewal for the CIHR Institute of Gender and Health (IGH).

Our 2009-2012 strategic plan was close to expiring, and it was time for IGH to take stock and plan for the future. We reflected on the world around us - not only where we had evolved to as an Institute, but also how sex, gender and health research had advanced into a field of growing international importance. The health research landscape had shifted dramatically since our last strategic plan was established in 2009, unlocking new possibilities for the future. We needed a fresh approach to fit this changing context and position us on a path of continued success into 2017. How could IGH harness the momentum behind gender, sex and health research to shape the future of science in bigger and broader ways?

As we set out on the journey of developing a new strategy to successfully lead IGH over the next five years, we took into account some key observations about the world around us – and the opportunities and challenges ahead.

EVERY CELL IS **SEXED** AND EVERY PERSON IS **GENDERED**

Sex and gender shape us inside and out - influencing everything from our biology to our behaviour, to the washrooms we use and the clothes we wear, to the boxes we check on a form at the doctor's office. Sex and gender permeate our lives, yet it can be difficult to recognize and define them.¹ While putting simple boxes around something as complex and interconnected as sex and gender is not easy, doing so helps researchers to apply the two concepts consistently and distinguish between the many different mechanisms through which sex and gender shape our lives - including our health.

While it is important to clearly distinguish between the two concepts, we also need to understand the complex and dynamic relationships that exist between sex, gender, and other factors that influence our health and well-being. Gender is an important determinant of health; however, the way it intersects with other determinants - such as our income, education, social and physical environments, genetics, and personal health practices - creates varied experiences and health outcomes across populations.

At IGH, we make a distinction between gender and sex while acknowledging that they are interrelated and potentially inseparable. Our understanding of sex and gender and their intersection with other determinants of health will continue to evolve as research advances.

'Sex' and 'gender' are often used interchangeably, despite having different meanings:

SEX refers to a set of biological attributes in humans and animals. It is primarily associated with physical and physiological features including chromosomes, gene expression, hormone levels and function, and reproductive/sexual anatomy. Sex is usually categorized as female or male but there is variation in the biological attributes that comprise sex and how those attributes are expressed.

GENDER refers to the socially constructed roles, behaviours, expressions and identities of girls, women, boys, men, and gender diverse people. It influences how people perceive themselves and each other, how they act and interact, and the distribution of power and resources in society. Gender is usually conceptualized as a binary (girl/woman and boy/man) yet there is considerable diversity in how individuals and groups understand, experience, and express it.

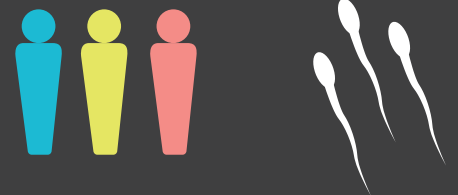
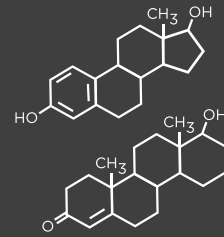
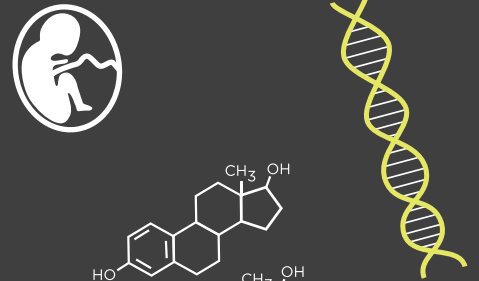
GENDER

Socially-constructed roles, behaviours, expressions and identities of girls, women, boys, men and gender diverse people.



SEX

Biological attributes of humans and animals, including physical features, chromosomes, gene expression, hormones and anatomy.



SEX & GENDER MATTER

There are many similarities between men, women, girls, boys and gender diverse people, but when it comes to our health and well-being, our differences matter.

Recognition of these differences began with a focus on reproductive health and now reaches well beyond our anatomy, thanks to a growing body of literature pointing to numerous sex and gender-based differences extending from the societal level down to our cells. Sex and gender influence our risk of developing certain diseases, our symptoms and severity of illness, how well we respond to interventions, and how often we seek health care. While investigating how patterns differ between groups is important, there is also sex and gender variation within groups that needs to be considered. We must not assume, for example, that all women are the same.

Understanding the influence of sex and gender on our health isn't just about studying the differences and similarities between us. What are the pathways underlying the trends we observe, and how do sex and gender intersect with other factors such as age or income to shape our overall health? These are complicated questions. The more we understand how sex and gender influence health, the more we can improve health and well-being for *everybody*.

DID YOU KNOW?



- 1** In Canada, men die younger than women, while women experience a heavier burden of chronic illness.
- 2** Close to **750,000** Canadians are estimated to be living with Alzheimer's and other dementias – and almost three quarters of them are women.²
- 3** Sex hormones are one of the reasons behind the higher incidence of autoimmune diseases in women – including lupus. Yet lupus affects men too, often with more severe symptoms.³
- 4** The same drug can cause different reactions and different side effects in women and men, including common drugs like antihistamines and antibiotics.⁴
- 5** Baby boys are at a higher risk of death and disability due to preterm birth than baby girls, including disabilities ranging from learning problems and blindness to deafness and motor problems.⁵
- 6** Physicians are less likely to recommend joint replacement surgery for hip and knee osteoarthritis to women versus men, even though women are **twice as likely** to suffer from the condition.⁶
- 7** While at least one in three adolescent students in Canada have reported being bullied recently, the rate of discrimination experienced among students who identify as Lesbian, Gay, Bisexual, Trans-identified, Two-Spirited, Queer or Questioning (LGBTQ) is **three times higher** than that of heterosexual youth.⁷
- 8** Among children and adolescents in Canada, the average spending on prescription drugs is **20% higher** for boys than girls – primarily because of higher spending on drugs for Attention Deficit Hyperactivity Disorder (ADHD) among boys.⁸
- 9** Men account for four out of every five deaths by suicide in Canada, yet women attempt suicide more often and have higher reported rates of depression.⁹
- 10** While men have consistently reported higher rates of smoking than women, women are over **20% more likely** to develop lung cancer than men who smoke the same number of cigarettes.¹⁰
- 11** Transgender people experience higher rates of depression, anxiety disorders and suicidality than non-transgender people due to experiences of transphobia and discrimination.¹¹
- 12** Substance use disorders are more common in men, yet the number of women using and abusing prescription and illegal drugs is increasing.¹²
- 13** In Canada, men account for almost **two thirds** of deaths related to injuries and poisonings.¹³
- 14** Although high blood pressure is equally prevalent in men and women, they are neither equally affected nor do they have the same risks.¹⁴
- 15** Men account for a quarter of cases of eating disorders such as anorexia nervosa and bulimia, yet treatment is still largely geared toward women.¹⁵



Close to **750,000** Canadians are estimated to be living with Alzheimer's and other dementias – and almost three quarters of them are women.

SCIENCE IS BETTER WITH SEX & GENDER

THE INCREASING RECOGNITION OF SEX AND

2009

- CIHR and its Health Portfolio partners approve a new *Sex and Gender Based Analysis (SGBA) Policy*, requiring the use of SGBA in the development, implementation and evaluation of Health Portfolio research, policies and programs.¹⁶
- The Gendered Innovations project, involving experts from across the U.S. and Europe, is established to provide scientists and engineers with practical methods for sex and gender analysis.¹⁷
- The World Health Organization's report on women and health declares that "Research must systematically incorporate attention to sex and gender in design, analysis, and interpretation of findings."¹⁸
- The European Union releases the *Toolkit for Integrating Gender into EU-Funded Research for the Seventh Framework Programme*, designed to give the European scientific research community practical tools and guidelines to promote the integration of gender into its research priorities.¹⁹

2010

- CIHR implements a requirement that all grant applicants respond to mandatory questions about whether their research designs include gender and sex, and to justify why or why not.
- The Office of Research on Women's Health of the US National Institutes of Health (NIH) releases *Moving into the Future with New Dimensions and Strategies for Women's Health Research: A Vision for 2020*, the NIH strategic plan for women's health and sex differences research.²⁰
- Gender mainstreaming is implemented as part of the Spanish Innovation Strategy, requiring gender analysis in all aspects of the research process.²¹
- A series of commentaries in *Nature and Science* identify funding agencies and journals as primary change agents to drive the routine integration of gender and sex in health research.²²

Since our inception, IGH has spread the important message that the meaningful integration of gender and sex in health research has the potential to make it more rigorous, more ethical, and more applicable to the needs of all people. When our research fails to account for sex and gender, the evidence we generate may be incomplete or incorrect, resulting in costly knowledge gaps. We risk not only doing harm by assuming that our study results apply to everyone, but also missing critical opportunities to improve health. Much of health research has been blind to sex and gender in the past, but this continues to change.

In our short history, IGH has made a number of transformative contributions to gender, sex and health research in Canada. We've increased research

capacity in the field, helped to mainstream sex and gender in research and policy, and fostered high-quality research on the influence of sex and gender on health. Today, IGH is joined by a diverse and growing community of researchers and knowledge users who are integrating sex and gender in their work to spark discovery, innovation and health impact. This progress is part of a broader movement that is driving sex, gender and health research to new heights, both in Canada and abroad. Exciting breakthroughs prove that this field is advancing, not just in the lab, but also in policy and practice. Since developing our 2009 strategic plan, research on gender, sex and health has matured into a rapidly evolving field of growing international importance - a signal of the increasing recognition that science is better with sex and gender.

GENDER IN HEALTH RESEARCH: 2009 TO 2012

2011

- The first European Gender Summit brings together over 300 participants to explore how the gender dimension stimulates excellence in research, development and innovation.
- The Institute of Medicine hosts a workshop on *Sex-Specific Reporting of Scientific Research*, which concluded with a number of suggestions for advancing the issue - including requiring sex-stratified analyses in journal publications.²³
- An editorial by Dr. Tammy Clifford of the Canadian Agency for Drugs and Technologies in Health highlights the importance and challenges of gender-sensitive approaches to health technology assessment.²⁴

2012

- The Chief Public Health Officer's *Report on the State of Public Health in Canada* calls for the mainstreaming of sex and gender-based analysis in all areas of public health.²⁵
- A commentary by CIHR President Dr. Alain Beaudet and IGH Scientific Director Dr. Joy Johnson calls for Canada's leading health journals to implement explicit sex and gender reporting requirements.²⁶
- IGH joins nine European member countries in the development of the GENDER-NET project, designed to promote the integration of the gender dimension in research.
- The European Association of Science Editors forms a gender policy committee to advance gender- and sex-sensitive reporting and communication in scientific publishing.²⁷
- Health Canada begins consultations on the new guidance document on *Considerations for Inclusion of Women in Clinical Trials and Analysis of Sex Differences*.²⁸

THE FUTURE OF **SEX,** **GENDER** AND HEALTH RESEARCH IS FULL OF OPPORTUNITY

The field of sex, gender and health is advancing – but there's more to do.

Research on gender, sex and health has reached a critical stage of development. While it is now well established that accounting for sex and gender is a matter of rigorous and ethical science, our ability to solve the most pressing health challenges facing men, women, girls, boys and gender diverse people relies on the universal uptake of sex and gender considerations across the full spectrum of research.

The scientific importance of considering the influence of sex and gender in any phenomena of study continues to be overlooked in some areas. Despite evidence of the influence of sex and gender at the cellular, tissue, human and societal levels, the use of male samples continues to be the norm in scientific studies. It's estimated that 5.5 male animal models are being used for every female in neuroscience, for example.²⁹ The overall underrepresentation of women in clinical trials continues to be an issue, while the participation of men in certain areas is also reported to be low. Responses to mandatory questions on sex and gender analysis in CIHR's grant application process echo these trends by showing us that many scientists in Canada are still overlooking sex and gender in their research, particularly in the biomedical field.

Failure to account for sex and gender has also been identified at another important point in the research process - scientific publishing. Accounting for sex and gender in research designs is an important first step but it does not guarantee that the data will be analyzed and reported, and many journals still do not encourage or require authors to report information on sex and gender in their manuscripts.³⁰

These challenges present a number of important opportunities for further integrating sex and gender across the research pipeline, including how research is funded, designed and reported. The importance of continuing to build high-quality research and knowledge translation capability on gender, sex and health in Canada is more vital than ever. Significant sex and gender-based differences in patterns of risk, behaviour, access to care and health outcomes are continuing to emerge, raising unanswered questions about our pathways to health and well-being. Integrating sex and gender in untapped areas of health research, policy and practice presents scientists and knowledge users with unprecedented opportunities for innovation and impact.

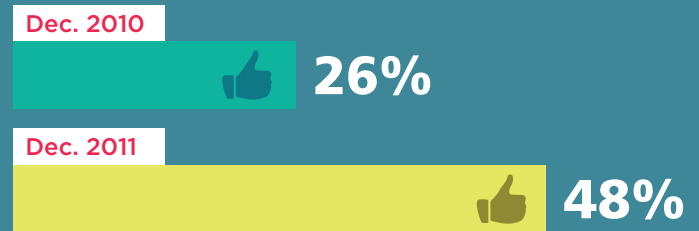
Our investment in gender, sex and health research is increasing...

CIHR-wide expenditures on gender, sex and health research:



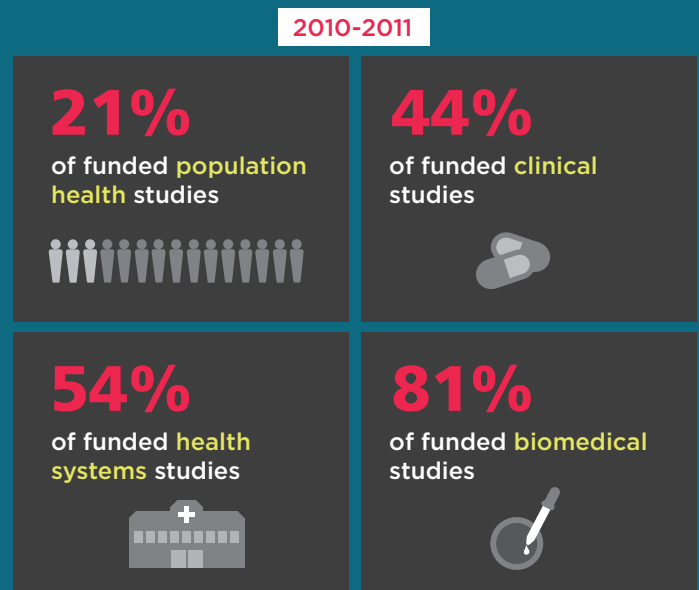
And so are the number of Canadian researchers incorporating sex and gender in their research designs...

Proportion of successful CIHR Open Operating Grant applicants responding positively to incorporating sex or gender in their research designs:



But there's more to do in order to mainstream the integration of sex and gender across the full spectrum of health research...

Our analysis of successful applications in CIHR's Open Operating Grant competitions between 2010 and 2011 found that the following reported having no sex or gender component:



RESEARCH MILESTONES

2009

- **BREAKTHROUGH:** By comparing different methodological approaches to analyzing a single dataset for risk factors of musculoskeletal disorders (MSD), Dr. Karen Messing and colleagues demonstrate how stratifying by gender is necessary if a full range of associations between exposures and MSD is to be detected and understood.³¹
- IGH invests \$6M to establish three new Centres for Research Development in Gender, Mental Health and Addictions, including the now internationally recognized PreVAiL Research Network.

2010

- **BREAKTHROUGH:** A new study by Dr. Jens Pruessner and colleagues suggests that estrogen has a selective protective effect on areas of the brain known to be involved in Alzheimer's disease, adding to a growing body of evidence that is clarifying the role of estrogen in women's brain health.³²
- CIHR implements a requirement that all grant applicants respond to mandatory questions about whether their research designs include gender and sex, and to justify why or why not.
- IGH hosts its 10th Anniversary Conference on *Innovations in Gender, Sex and Health Research*

2011

- **BREAKTHROUGH:** Dr. Jeffrey Mogil and colleagues report a surprising sex difference in the involvement of toll-like receptors (proteins that act as first responders in our immune systems) in the mediation of chronic pain - one of many new discoveries made in Mogil's lab resulting from the routine testing of male and female mice in all experiments.³³
- IGH and its partners invest \$8.5M in six new teams in Violence, Gender and Health.
- IGH and the Public Health Agency of Canada jointly host the *Boys' and Men's Health Forum* to foster knowledge exchange among policymakers and researchers about gender-sensitive ways to understand and address the health needs of boys and men.
- **BREAKTHROUGH:** Following the identification of gender disparities in rates of use of total hip and knee replacements in Canada, a new study by Dr. Gillian Hawker and colleagues is the first to demonstrate that patient gender affects physicians' treatment recommendations and interpersonal behaviour in clinical practice.³⁴

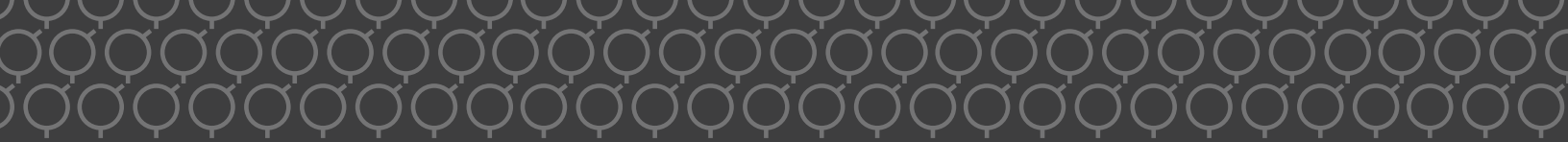
2012

- **BREAKTHROUGH:** As part of his novel research program on men's depression, Dr. John Oliffe and colleagues uncover new insights into the pathways through which men respond to severe depression and suicidal ideation, including how masculine roles, identities and relations mediate depression-related suicidal ideation.³⁵
- IGH releases *What a Difference Sex and Gender Make*, a peer-reviewed research casebook illustrating how attending to gender and sex in health research contributes to advancing knowledge, strengthening science and improving knowledge translation.
- IGH hosts its second international conference *Advancing Excellence in Gender, Sex and Health Research*, drawing in double the number of submissions from the previous IGH conference and delegates from 19 countries.

2013

- **BREAKTHROUGH:** Dr. Jayne Danska and colleagues discover an association between sex differences in the gut microbiome and susceptibility to type-1 diabetes in mice, uncovering potential reasons why females are at greater risk of autoimmune disease compared to males.³⁶
- IGH and its partners invest \$7.2M in nine new CIHR Research Chairs in Gender, Work and Health.
- The first Partners Forum for the *Canadian Consortium on Neurodegeneration and Aging* research initiative is held, during which international partners identify the integration of sex and gender considerations as the initiative's most unique research contribution.
- IGH partners with Canadian, U.S. and Mexican research funding agencies to host Gender Summit 3 North America, with an aim to increase the "gender dimension" in research content and process.
- IGH and its partners invest \$12M in a new team grant funding opportunity to address health challenges affecting boys and men health.

Have you considered the possibilities?



OUR INSTITUTE



IGH is one of 13 national Institutes within the Canadian Institutes of Health Research (CIHR), the Government of Canada's health research investment agency.

Created in 2000, CIHR's mission is to create new scientific knowledge and to enable its translation into improved health, more effective health services and products, and a strengthened Canadian health care system. CIHR provides leadership and support to more than 13,200 health researchers and trainees across Canada.

CIHR's 13 Institutes are mandated to support health research in four major areas: biomedical, clinical, health systems and services, and population and public health. Each Institute plays a critical role in supporting CIHR signature and strategic initiatives, as well as health research initiatives set out by the Government of Canada.

WE ARE...

MORE THAN A FUNDING INSTITUTE

At the CIHR Institute of Gender and Health, we envision a world where sex and gender are integrated as key considerations in health research and its applications. Our mission is to foster research excellence regarding the influence of gender and sex on health, and to apply these research findings to identify and address pressing health challenges facing men, women, girls, boys and gender diverse people. Fulfilling our mission requires IGH to be more than a funder of health research. IGH plays an important leadership role in advancing knowledge, building capacity for gender, sex and health research across disciplines and career stages, and accelerating the application of evidence in the real world. Under the leadership of our Scientific Director and Institute Advisory Board, our role is to champion a health research agenda that embraces sex and gender and is therefore more scientifically sound and responsive to the diverse health needs of Canadians and the global community.

MULTIDISCIPLINARY

Sex and gender intersect all areas of health research, uniquely positioning IGH to collaborate broadly across disciplines, research themes and Institutes within CIHR. For over a decade, we have supported research that fills critical knowledge gaps in a diverse range of areas, including mental health, cancer, heart disease, substance use, sexual and reproductive health, violence, and work and health. To date, IGH has worked alongside our fellow Institutes to integrate sex and gender in CIHR-wide initiatives that span topics such as epigenetics, environmental health, community-based primary care, Aboriginal health and Alzheimer's disease. The number of domains of research relevant to IGH's mandate continues to grow as we learn more about the relationships between sex, gender and health.

INTERNATIONAL

IGH is unique on the international health research stage. Recognized as the only national research institution in the world with a dedicated mandate in gender, sex and health research, IGH positions Canada as a global leader in the creation and translation of knowledge in this area. As a result, IGH has developed a network of international partners and collaborators that spans over 12 countries.

IGH IN NUMBERS

1

Scientific Director

12

Institute Advisory Board members representing public, private and non-profit sectors, including the research community and health practitioners.

\$8.6 MILLION

Annual budget for strategic initiatives that advance research on gender, sex and health.

13

Years supporting research that fills critical knowledge gaps related to the health of women, men, girls, boys and gender diverse people.

Partners and collaborators in over

12

countries around the world, including the United States, Mexico, England, France, Belgium and Australia.

30

Research chairs, teams and centres supported since 2009, and countless trainees and researchers influenced.

1,544

Views (and counting) of the IGH video *Shaping Science for a Healthier World*, available on CIHR's 'Health Research in Canada' Youtube channel.

17,146

Views of the online IGH casebook *'What a Difference Sex and Gender Make'* since January 2012.



OUR STRATEGY



We're Shaping Science for a Healthier World

Starting in 2013, the CIHR Institute of Gender and Health began executing *Strategy 2017*, a new five-year strategic plan with a central focus on shaping science for a healthier world. IGH is already recognized as an international leader in fostering high-quality and independent research on sex, gender and health. Our new strategy is designed to build on our track record of excellence, maximize the capacity and growing momentum of our community, and position the Institute to be nimble in a changing health research environment. Our new strategy looks beyond funding opportunities to how IGH can shape science in bigger and broader ways, and in turn unlock new knowledge that supports better health for men, women, girls, boys and gender diverse people.

STRATEGY 2017

AT A GLANCE

Strategy 2017 has been carefully constructed around three strategic directions, developed collaboratively with our Institute Advisory Board and stakeholder communities:

1

INTEGRATION:

transforming *structures* within our health research systems to foster the integration of sex and gender across the health research spectrum.

2

INNOVATION:

transforming *processes* within research approaches to spark innovative methods and new discoveries in the field of gender, sex and health research.

3

IMPACT:

transforming *outcomes* of gender, sex and health research by ensuring that knowledge generated by our community is translated into improved policies, products, services and systems that support better health for *everybody*.

Our plan includes 10 goals that directly align with our strategic directions of Integration, Innovation and Impact. Our goals drive all aspects of our work and are central to operational planning and evaluation at IGH. The successful achievement of IGH's *Strategy 2017* is supported by a new Performance Measurement Framework, which will be used as a tool for quality assurance, accountability and program improvement at the Institute. The new IGH Performance Measurement Framework identifies key outcomes and indicators for success that will be used to measure our program outputs, processes and goal attainment under our three directions of Integration, Innovation and Impact.

The pages that follow outline IGH's strategy in more detail, including our directions; our goals and how we are already beginning to action and measure them; and how our agenda supports the broader directions and vision of CIHR.

INTEGRATION GOALS

1

Increased integration of sex and gender considerations by health researchers in all disciplines.

2

Universal integration of sex and gender considerations across all of CIHR's research themes and initiatives.

3

Greater integration of sex and gender considerations by other health research funding agencies, both in Canada and internationally.

4

Improved reporting of sex and gender considerations in science publishing and communication.

INNOVATION GOALS

5

Increased development and application of methods and measures that facilitate new understandings of how sex and gender influence health.

6

Greater body of multidisciplinary research that brings together biological (sex) and social (gender) considerations in health research.

7

Improved knowledge exchange and coordination between leading Canadian and international sex, gender and health researchers and funders.

IMPACT GOALS

8

Improved capacity and skills of gender, sex and health researchers to engage in knowledge translation activities.

9

Increased awareness among knowledge users and citizens of the influence of sex and gender on health and well-being.

10

Greater integration of sex and gender considerations in health policies, programs, services and systems.

1

STRATEGIC DIRECTION ONE:

INTEGRATION

WHAT WE KNOW: Science is better with sex and gender. While many areas of health research have overlooked sex and gender considerations in the past, advancements in research policy and practice over the past decade are a signal of the increasing recognition that rigorous and ethical health research must account for sex and gender.

WHAT WE NEED: While there is still a need to elevate awareness about the relevance of gender and sex in some research communities, it is time to move from awareness to action by shifting our primary focus towards fostering the integration of gender and sex in all health research.

OUR STRATEGY: Integrating sex and gender in all health research requires transforming *structures* within our health research systems - from grant writing to the mechanics of peer review and publishing. By changing structures within our systems to better enable the integration of sex and gender considerations, we will contribute to excellence in peer review, foster cutting-edge research that is scientifically and ethically sound, and support the generation of evidence that is more applicable to the needs of *everybody*.

Supporting CIHR's commitment to invest in world-class research excellence and address key health priorities are at the heart of IGH's strategic focus on *integration*. In addition to contributing to the creation of outstanding investigators and excellence in peer review, greater integration of sex and gender within research systems will support CIHR in delivering on its commitment to fostering research that is scientifically sound and responsive to the needs of all Canadians. IGH will also support more efficient strategic investment planning on health and health system research priorities by leading the integration of sex and gender considerations in CIHR Signature Initiatives.

OUR INTEGRATION GOALS:

We will foster the integration of gender and sex in all health research by pursuing the following goals:

1

Increased integration of sex and gender considerations by health researchers in all disciplines.

HOW: In 2013, IGH began regularly analyzing responses to the mandatory sex and gender questions in the CIHR grant application process to identify areas of research where sex and gender are being overlooked. We are now in the process of developing a new web-based training resource that will provide health researchers and peer reviewers with knowledge and tools to support the integration of sex and gender considerations in their work. To support capacity building and the integration of gender and sex across the research spectrum, the training resource will cater to scientists from a diversity of career stages and disciplines, including biomedical, clinical, health services and population health domains.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- The percentage of CIHR-funded researchers incorporating sex and gender in their research designs according to applicant response data.
- The quality of responses from CIHR applicants on how they are integrating sex and gender in their research designs, or how they justify not doing so.

2 Universal integration of sex and gender considerations across all of CIHR's research themes and initiatives.

HOW: IGH is working with a number of our fellow Institutes to ensure that explicit and meaningful consideration is given to sex and gender in CIHR Signature Initiatives. The most recent example is the Canadian component of CIHR's International Collaborative Research Strategy for Alzheimer's Disease, where a core group of dedicated researchers has been established to foster the integration of sex and gender throughout its research projects. While this progress is promising, there is a clear need to strengthen our efforts to advance the integration of sex and gender more broadly in all CIHR strategies and initiatives, such as the Global Health Research Initiative.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- The number of CIHR funding programs that include sex and gender considerations within application processes, priority areas and grant review processes.
- The number of CIHR funding programs with peer review panels that include reviewers with expertise in sex and gender.

3 Greater integration of sex and gender considerations by other health research funding agencies, both in Canada and internationally.

HOW: IGH was instrumental in the implementation of mandatory sex and gender questions in CIHR's grant application process in 2010, and is committed to supporting and encouraging other funding agencies to follow suit. For example, IGH is influencing European research policy through our partnership in the GENDER-NET project, in which the Institute is responsible for leading a work package on the

integration of sex and gender into research contents in collaboration with nine national funding agency partners. Here in Canada, IGH regularly promotes the integration of sex and gender in research funding systems through strategic outreach to other funding agencies and research organizations.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- The number of Canadian and international research funding agencies that integrate sex and gender analysis into their grant application and review processes.
- The number of Canadian and international peer review processes that include reviewers with expertise in sex and gender research.

4 Improved reporting of sex and gender considerations in science publishing and communication.

HOW: IGH is committed to advancing sex and gender reporting in health research through our strategic partnerships, communications and targeted outreach to build awareness and capacity among journals and science communicators. For example, as an active member of the European Association of Science Editors (EASE) Gender Policy Committee, IGH is collaborating on the development of a common standard that can be used by scientific and medical journals to organize their policies on sex and gender and address related gaps in science communication.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- The number of Canadian and international journals integrating sex and gender reporting requirements in their editorial policies.
- The percentage of Cochrane reviews that consider sex and gender on an annual basis.

2

STRATEGIC DIRECTION TWO:

INNOVATION

WHAT WE KNOW: Traditional methodological approaches in health research have been directed at controlling for extraneous factors and minimizing heterogeneity. It is this approach that has, for example, led researchers to study only male animals and control for the effects of the environment through randomization. Methodological innovation is required for gender, sex and health research to advance.

WHAT WE NEED: Considering how variance in disease processes and health outcomes is expressed along a range of gendered and sexed lines is critical to ensuring our health services and systems meet the needs of *everybody*. We need to move beyond binary measures of sex and gender by advancing research that interrogates heterogeneity and investigates the causal mechanisms underlying our differences and similarities. We need to increase our collaboration across disciplinary borders to foster new and innovative approaches to gender, sex and health research.

OUR STRATEGY: Fostering innovative approaches to gender, sex and health research requires the transformation of *processes* within our research approaches – from the theoretical and conceptual frames we bring to our work, to the methods and measures we use, and the people we collaborate with in the process. This strategic direction focuses on the methodological frontiers of gender, sex and health research, and will enable researchers to answer the challenging questions that arise from the complex health issues currently facing men, women, girls, boys and gender diverse people. Fostering innovative approaches to gender, sex and health research complements the breadth of IGH’s mandate – one that touches every aspect of health research – and our legacy of supporting multidisciplinary research.

Innovation is a core value of CIHR and a critical factor in achieving world-class research excellence. In keeping with CIHR’s quest to support innovation, we will encourage researchers to collaborate across disciplines and challenge them to not only build on what is known but also to consider what has not been explored in relation to gender, sex and health – an important source of innovation and discovery. The addition of sex and gender considerations can be particularly advantageous in areas of science and technology that have previously ignored sex and gender variation. Case studies from areas such as stem cell research and osteoporosis demonstrate how the integration of sex and gender in health research could be used as a lever for innovation within CIHR Signature Initiatives and other strategic investments.³⁷

OUR INNOVATION GOALS

We will foster innovative approaches to gender, sex and health research by pursuing the following goals:

5

Increased development and application of methods and measures that facilitate new understandings of how sex and gender influence health.

HOW: IGH will equip researchers in our community to share their experience with innovative sex, gender and health research methods both through traditional publishing and through presentations and knowledge exchange with their peers. For example, at the 2014 International Health Data Linkage Conference IGH convened a panel of leading researchers who offered practical strategies for integrating sex and gender in

data collection and analysis, as well as opportunities for reflection on innovation in these practices.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- Reports of the development of new methods and instruments by researchers in the evaluation of IGH funding opportunities.
- The number of researchers and trainees reporting improved knowledge and understanding of the importance of sex and gender considerations and methods.

6

Greater body of multidisciplinary research that brings together biological (sex) and social (gender) considerations in health research.

HOW: IGH is interested in fostering research programs and initiatives that effectively integrate sex and gender to generate new insights into the biosocial nature of health and illness. For example, in 2013 IGH participated in a workshop hosted by the CIHR Institute of Human Development, Child and Youth Health on the Developmental Origins of Health and Disease (DOHAD) through the Lifespan. The workshop brought more than 70 thought leaders together to identify the preliminary research priorities of a potential strategic funding opportunity related to DOHAD, an area of research where the integration of gender and sex would unlock immense potential for uncovering new understandings about the biosocial nature of health and illness.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- The percentage of projects and initiatives supported by IGH that include inter-institutional and intersectoral collaborators.
- The percentage of projects and initiatives supported by IGH that focus on biosocial topics and methods.

7

Improved knowledge exchange and coordination between leading Canadian and international sex, gender and health researchers and funders.

HOW: IGH is committed to pursuing and supporting international collaborations and partnerships within the broader sex, gender and health research community. For example, in November 2013 IGH partnered with the US National Science Foundation and a number of other U.S., Canadian and Mexican funding agencies to host Gender Summit 3 North America in Washington, D.C. In addition to serving on the planning committee, IGH facilitated the participation of a number of leading Canadian health researchers at Gender Summit 3. IGH also hosted a pre-Summit international roundtable where participants exchanged information and shared best practices on fostering the integration of gender and sex into health research.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- The number of collaborations between IGH and international health research funders.
- The percentage of projects supported by IGH that include international collaborators and partners.

3

STRATEGIC DIRECTION THREE:

IMPACT

WHAT WE KNOW: IGH is committed to our knowledge translation (KT) mandate and strongly supports our research community in mobilizing evidence that supports better health and well-being for men, women, girls, boys and gender diverse people. Knowledge users (including practitioners, policy makers and decision-makers in the non-profit and private sectors) require evidence about the relationship between sex, gender and health in order to implement programs, policies and services that are safe and effective for *everybody*.

WHAT WE NEED: There is still a great deal of knowledge about sex, gender and health that has not made its way into policy and practice. We need to ensure that this evidence is more accessible, while recognizing that publication alone is insufficient to bridge the gap between research and widespread impact. While effective dissemination of health research is critical, we also need to increase our focus on strategic knowledge exchange and application to ensure that sex and gender evidence is considered early on in the development of new policies and programs.

OUR STRATEGY: Transforming *outcomes* of gender, sex and health research requires a multitude of strategies known to accelerate the translation of knowledge into improved policies, products, services and systems – from building more robust knowledge translation approaches into our research proposals, to sharing our results in more targeted ways, and engaging knowledge users earlier in the research process. This strategic direction focuses on advancing the meaningful application of evidence generated by our community to close the gap between what we know about the relationship between sex, gender and health and what we do with this knowledge.

Accelerating the capture of health and economic benefits of health research is a key direction of CIHR. In keeping with this, our strategic focus on Impact will ensure that CIHR is not only funding world class

research but also enabling the meaningful uptake and application of gender, sex and health evidence in the real world. Our efforts in this area will help CIHR to deliver on several of its knowledge translation commitments - including capacity building, solutions-based research, collaboration and partnership building with knowledge users, evidence-informed policy making, and engagement of private sector partners and citizens. It is also important to ensure that the benefits of health research are equitably applicable to the needs of all Canadians. In working across CIHR Signature Initiatives, IGH will help to ensure that important sex and gender considerations are taken up, so that when impacts are determined they are responsive to the individual needs of men, women, girls, boys and gender diverse people.

OUR IMPACT GOALS:

We will foster more impactful sex, gender and health research by pursuing the following goals:

8

Improved capacity and skills of gender, sex and health researchers to engage in knowledge translation activities.

HOW: Creating and supporting knowledge translation (KT) training opportunities for our research community continues to be a key priority for IGH. In 2013, we completed our first knowledge translation needs assessment with a small cohort of IGH-funded researchers in order to better understand their needs, interests and skill levels with respect to knowledge synthesis, dissemination, exchange and application. The results of this and future needs assessments with our research community are valuable to improving and evaluating our approach to knowledge translation training and capacity building.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- Self-reported improvements in KT knowledge and skills by IGH-funded researchers.
- The proportion of IGH-funded researchers developing and implementing comprehensive knowledge translation plans.

9

Increased awareness among knowledge users and citizens of the influence of sex and gender on health and well-being.

HOW: IGH is becoming more strategic in our approach to communications in order to improve our reach and engagement with knowledge users and citizens. Following an evaluation of our communications approaches and audiences in early 2013, IGH has adopted a number of new strategies and tools to communicate with knowledge users and citizens in more effective and meaningful ways – including increasing our use of social media, implementing a new and improved newsletter, prioritizing the development of video and web-based content, and exploring the production of new communications products that are targeted to particular audiences. We are also enhancing our approach to direct outreach by increasing the scope of our conference engagement and using web-based technology to expand the reach of live public events such as CIHR Café Scientifiques.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- Self-reported awareness and understanding of the influence of sex and gender on health and well-being by knowledge users and the public.
- Knowledge user, media and public engagement in sex, gender and health content shared by IGH.

10

Greater integration of sex and gender considerations in health policies, programs, services and systems.

HOW: IGH uses several approaches to accelerate the application of knowledge generated by our research community. In addition to continuing our practice of requiring the development of knowledge translation (KT) plans in all major funding opportunities, IGH is experimenting with new ways of building KT into the infrastructure of our initiatives in order to facilitate earlier involvement of knowledge users in the research process. For example, our unique collaboration with the Canadian Centre for Occupational Health and Safety in the CIHR Gender, Work and Health Chair Program marks the first time that an official KT partnership has been established at the outset of a major IGH funding initiative. Another key focus of IGH is to create opportunities for our research community to exchange their knowledge in support of evidence-informed decision making on timely policy, program and health systems issues. In 2013, IGH collaborated on the delivery of two distinct knowledge exchange forums designed to bring a sex and gender lens to the federal policy dialogue on suicide prevention and family violence – both critical public health challenges in Canada.

MEASURING OUR SUCCESS: Examples of performance indicators that IGH is using to track the achievement of this goal include:

- The number of IGH researchers reporting impactful knowledge translation partnerships and relationships in their research
- Evidence of the application of sex and gender-based analysis and evidence in the shaping of programs, programs and services.

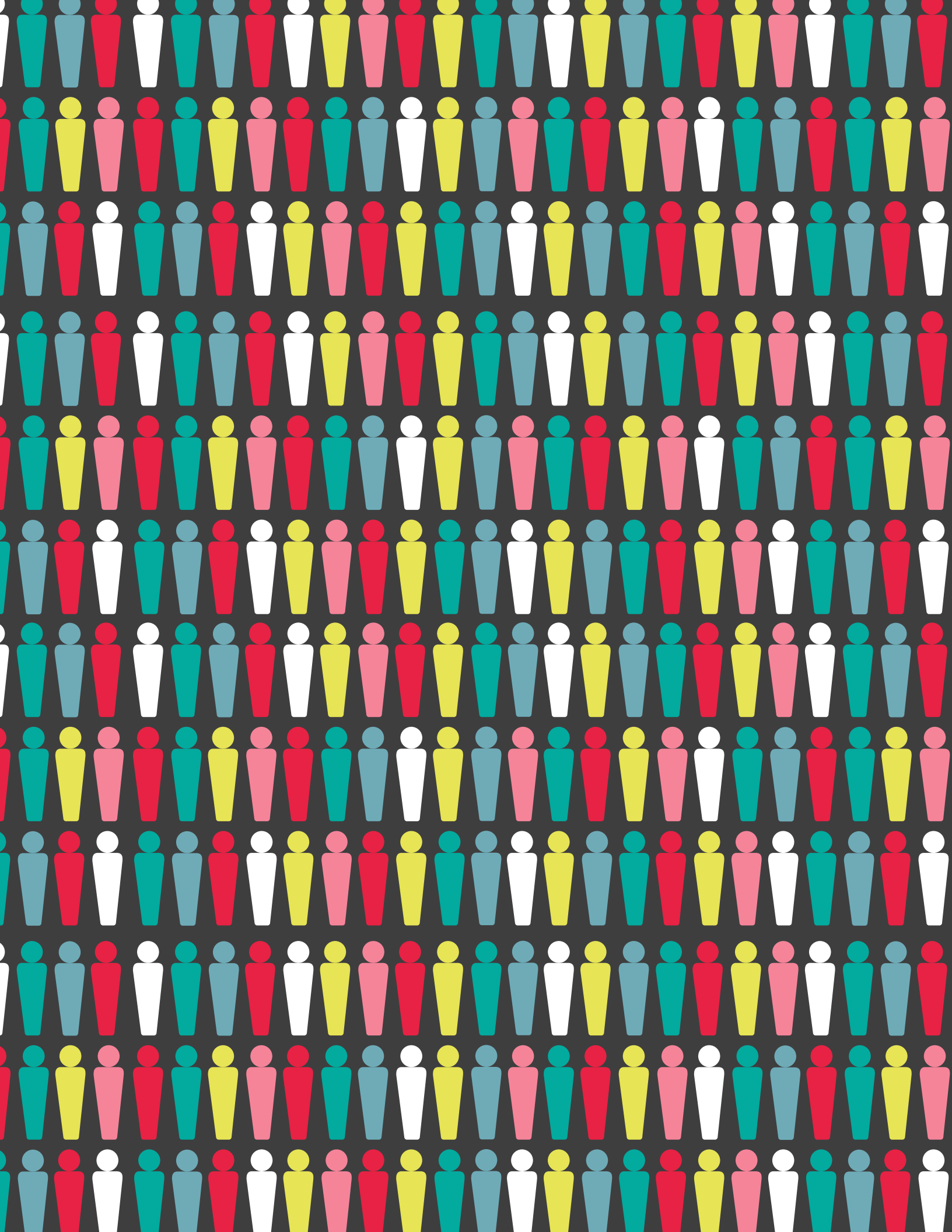


OUR FUTURE

Strategy 2017 is an ambitious, goal-oriented plan that positions the CIHR Institute of Gender and Health for a future of increasing success in a changing health research environment, builds on our international track record for excellence, and harnesses the growing capacity and momentum of our research community. With a focus on **Integration, Innovation** and **Impact**, *Strategy 2017* looks beyond funding opportunities to how IGH can shape science more broadly to foster the creation and application of new knowledge that supports better health for men, women, girls, boys and gender diverse people.

As we look to the future, IGH will continue to link strategic planning with strategic execution to ensure that our activities support our goals, address the evolving needs and priorities of CIHR and our research community, and respond to the emerging health challenges facing Canadians and the world. Robust evaluation of our outputs, outcomes and goals are central to the successful achievement of our agenda. As we continue to implement *Strategy 2017*, IGH will work in partnership with our Institute Advisory Board and colleagues at CIHR to monitor our performance, learn from our challenges and share our progress with the broader health research community.

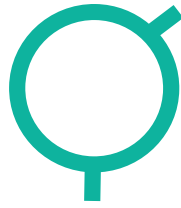
The development of *Strategy 2017* marks the beginning of an exciting new chapter in IGH's story. Canada is now home to a diverse network of researchers and knowledge users who are integrating sex and gender in their work to spark discovery, innovation and health impact. Our community is continuing to grow as an increasing number of health researchers are accounting for sex and gender in their studies in recognition of the immense potential it holds for new discoveries and more rigorous science that considers the health needs of *everybody*. The future of gender, sex and health research is full of opportunity. Have you considered the possibilities?



THANK YOU

The development of IGH's *Strategy 2017* would not have been possible without the commitment and contributions of our Institute Advisory Board members, our fellow CIHR Institutes and colleagues, and our diverse community of researchers, knowledge users and partners. Thank you for passionately sharing in our commitment to shape science for a healthier world.

We also wish to thank our friends at Creative B'stro for bringing our story to life through the design of this report and related IGH communications products.



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