

Additional file 3. Tentative Program Content (*Subject To Revisions*)

DAY 1: Welcome, Introductions, Program Overview, Conceptual Frameworks

REGISTRATION AND WELCOME BREAKFAST (8:00 am – 8:30 am)

OPENING REMARKS
WELCOME AND PROGRAM OVERVIEW (8:30 am – 8:50 am)
FROM THE HOST CLINICAL INSTITUTION (8:50 am - 9:10 am)
FROM THE REHABILITATION SCIENCES INSTITUTE (9:10 am - 9:30am)

ETHICAL CONSIDERATIONS OF CONDUCTING SEX AND GENDER+ SCIENCE (9:30 am - 10:30 am)	
Research Ethics Board - Health Sciences University of Toronto	<i>[tentative, to be invited]</i>
Learning Objectives 1. Learn about sex and gender considerations within research ethics framework and culture 2. Discuss relevance of sex, gender, and intersectionality in proportional ethical reviews and risk 3. How to prepare a research ethics protocol that is sensitive to health inequities among participants invited to engage in research	

BREAK (10:30 am - 10:45 am)

WORKSHOP: [TENTATIVE TOPIC] ADVANCING GENDER-INCLUSIVE HEALTH POLICIES: FROM RESEARCH TO IMPLEMENTATION (10:45 am - 11:45 am)	
	<i>[tentative, to be invited]</i>
Learning Objectives [suggested] 1. Understand the current policy landscape for gender-inclusive health research. 2. Acquire practical skills in policy advocacy, alliance-building, and effective communication with policymakers. 3. Identify gaps in existing policies and develop actionable next steps to advocate for gender-inclusive health policies in your specific context.	

WORKSHOP: [TENTATIVE TOPIC] DISSEMINATION SKILLS - HOW TO WRITE PRESS RELEASES ON RESEARCH STUDIES AND WORK WITH THE MEDIA (11:45 am - 12:45 pm)	
	<i>[tentative, to be invited]</i>
Learning Objectives [suggested]	

1. To become familiar with the structure of press releases;
2. To point out key information within the given example of a press release;
3. To practice writing your own press release, consisting of the headline and introduction, and key information in a few sentences.

LUNCH AND NETWORKING (12:45 pm – 1:45 pm)

WORKING WITH INDIGENOUS PARTNERS TO ADVANCE HEALTH RESEARCH AT ICES (1:45 pm – 2:45 pm)

Learning objectives:

1. To understand who ICES is and what data is available
2. Provide an overview of Indigenous data governance and sovereignty
3. Learn about the Indigenous Partnerships, Data and Analytics department at ICES and our work with Indigenous partners

CASE STUDY (2:45pm - 3:45 pm)

Present case of Lee and Sam, who sustained a traumatic brain injury. Ask students to conduct SGBA+ in small groups (5/group, mixtude of disciplines and health research pillars):

- Brainstorm the key biological and sociocultural elements (strengths and vulnerabilities) that might have influenced Lee's and Sam's health and functional outcomes.
- Link the elements with the literature and frameworks, and to one of more boxes of the SGBA+.
- The recorder chosen by the group will give a 5 min presentation to introduce general discussion.

BREAK (3:45 pm - 4:00 pm)

TOUR: KITE RESEARCH INSTITUTE (4:00 pm – 5:00 pm)

The KITE Research Institute is the scientific arm of the Toronto Rehabilitation Institute. KITE is a world leader in complex rehab with more than 100 scientists dedicated to improving the lives of people living with the effects of disability, illness and aging. KITE's areas of focus include prevention of injury, restoration of function after injury and aging well. Our researchers are actively engaged in developing new treatments, devices and products as well as gathering evidence that guides changes to policy and public opinion.

- **CareLab** consists of a simulated patient care environment for research purposes based on a typical hospital single patient room.
- **ClimateLab** has temperature control that can be set between -20°C to +35°C to test clothing, footwear and assistive technology.
- **DriverLab** uses simulation to help develop tests for fitness and safety for driving, recommendations, and investigating effects of health and medications on driving.
- **FallsLab** aims to understand balance and gait, develop therapies for people with conditions that increase the risk of falls, and prevent or mitigate falls/balance loss related injuries.

- **HomeLab** enables researchers to study how to help older people and people with challenges live safely and as independently as possible at home.
- **MotionBase** is a large six degree of freedom motion system.
- **Movement Evaluation Lab** allows researchers to develop and evaluate new diagnostic techniques and therapies aimed at improving the control of movement and mobility.
- **PerceptionLab** uses stereoscopic projection display, multi-screen setup, virtual reality headsets, and (neuro)physiological equipment to study human perception and performance.
- **RampLab** is a premier research and testing facility for Slip and Fall Prevention Solutions.
- **Rehab Engineering Lab** is multidisciplinary facility devoted to developing solutions for restoring function after neurological injuries and disease.
- **SleepdB** is a sound-proof laboratory developed to examine sleep-disordered breathing.
- **StairLab** helps scientists improve independence and prevent injury through gait and balance research in aging and disability.
- **StreetLab** is a multi-sensory immersive lab that allows scientists to present people with realistic scenarios as they safely navigate the challenges associated with everyday life.
- **WinterLab** replicates icy, snowy and cold conditions to study their impact on mobility and safety.

DAY 2: Biomedical Research

ARRIVAL AND BREAKFAST (8:00 am – 8:30 am)

MORNING FORUM (8:30 am – 9:30 am)

A dedicated open-discussion period between trainees and mentors, held first thing in the morning of Days 2-5. These discussions will revolve around the concepts learned during the previous day(s) and should confront previous knowledge, perspectives/beliefs, triggering questions or reflections.

Approach: After each day, trainees will be asked to write one question or *Aha!* moments on a piece of paper and hand it to their mentors. The next morning, each mentor will choose the most relevant questions and read them to the group to initiate discussions. All trainees, mentors, and invited speakers/stakeholders will be encouraged to participate in the discussion by reminding evidence, by giving their perspectives and/or by sharing their experience.

Learning Objectives:

1. Encourage trainees to reflect on their learning;
2. Enable trainees to share on their understanding/learning;
3. Help trainees progress in a transdisciplinary research and translational aspects of health research;
4. Offer an opportunity of discussion and interaction, learn and act together;
5. Help trainees to clarify and mentally organize/solidify knowledge.

CCNA PERSPECTIVES: PRACTICAL IMPLICATIONS OF SEX, GENDER, AND INTERSECTIONALITY IN BIOMEDICAL RESEARCH (9:30 am - 10:30 am)

[tentative, to be invited]

BREAK (10:30 am - 10:45 am)

BIOMEDICAL RESEARCH - UNDERSTANDING NORMAL AND ABNORMAL FUNCTIONING AT THE MOLECULAR, CELLULAR, AND ORGAN LEVELS
(10:45 am – 11:45 am)

Learning Objectives

1. How to integrate sex and gender considerations into in vitro study?
2. Why is it important to integrate sex and gender consideration when studying pregnant individuals?
3. Is it always possible to integrate gender consideration into basic experimental biomedical research?

TRANSCENDING THE MALE-FEMALE BINARY IN BIOMEDICAL RESEARCH: CONSTELLATIONS, HETEROGENEITY, AND MECHANISMS (11:45 am – 12:45 pm)

Learning Objectives

1. Articulate the distinctions and entanglements between sex and gender and their implications in health research.
2. Apply a context-driven approach to experimental design for addressing sex and gender-related challenges in biomedical research.
3. Understand how data visualization, statistical analysis, and rhetoric can be used to enhance the operationalization of sex and gender in biomedical science beyond a binary approach.

LUNCH AND NETWORKING (12:45 pm – 1:45 pm)

[TENTATIVE TOPIC] MEASUREMENT IN MEDICINE (1:45 pm – 2:45 pm)

[tentative, to be invited]

[TENTATIVE TOPIC] SEX AND GENDER CONSIDERATIONS IN RANDOMIZED CONTROL TRIALS (2:45 pm – 3:45 pm)

[tentative, to be invited]

BREAK (3:45 pm - 4:00 pm)

CASE STUDY: SEX AND GENDER CONSIDERATION IN DRUG DEVELOPMENT
(4:00 pm – 5:00 pm)

Present scenario of the need to develop a drug to deal with cognitive impairments of two population groups: male and female. Encourage students to explore considerations related to biological sex, including factors influencing drug absorption, distribution, metabolism and excretion, while also

considering sociocultural gender experiences that influence behavioral aspects such as adherence, following medical recommendation, and attitudes towards dosage, frequency of intake, and expected benefits/adverse effects.

- Brainstorm the key biological and sociocultural elements (strengths and vulnerabilities) that should be considered in drug development.
- Link the elements with the literature and frameworks, and to one of more boxes of the SGBA+.
- The recorder chosen by the group will give a 5 min presentation to introduce general discussion.

DAY 3: Clinical Research

ARRIVAL AND BREAKFAST (8:00 am – 8:30 am)

MORNING FORUM (8:30 am – 9:30 am)

A dedicated open-discussion period between trainees and mentors, held first thing in the morning of Days 2-5. These discussions will revolve around the concepts learned during the previous day(s) and should confront previous knowledge, perspectives/beliefs, triggering questions or reflections.

Approach: After each day, trainees will be asked to write one question or *Aha!* moments on a piece of paper and hand it to their mentors. The next morning, each mentor will choose the most relevant questions and read them to the group to initiate discussions. All trainees, mentors, and invited speakers/stakeholders will be encouraged to participate in the discussion by reminding evidence, by giving their perspectives and/or by sharing their experience.

Learning Objectives:

1. Encourage trainees to reflect on their learning;
2. Enable trainees to share on their understanding/learning;
3. Help trainees progress in a transdisciplinary research and translational aspects of health research;
4. Offer an opportunity of discussion and interaction, learn and act together;
5. Help trainees to clarify and mentally organize/solidify knowledge.

IMPLEMENTING SHARED DECISION-MAKING INTO CLINICAL RESEARCH AND PRACTICE (9:30 am – 10:30 am)

Learning Objectives

1. Discuss barriers and facilitators to implementing shared decision-making in clinical practice.
2. Learn actionable steps to integrate shared decision-making in clinical research and practice
3. Recognize value of collaborative efforts surrounding sex, gender, and intersecting social processes to improve human health and well-being for all

BREAK (10:30 am - 10:45 am)

PANEL: [TENTATIVE TOPIC] ADVANCING HEALTH EQUITY THROUGH INNOVATION IN CLINICAL RESEARCH (3 TO 4 PANELISTS)

(10:45 am – 11:45 pm)

[tentative, to be invited]

[TENTATIVE TOPIC] SCIENTIFIC KNOWLEDGE AND CLINICAL UNDERSTANDING OF DEMENTIA THROUGH A SEX, GENDER, AND INTERSECTIONALITY LENS

(11:45 am – 12:45 pm)

[tentative, to be invited]

LUNCH AND NETWORKING (12:45 pm – 1:45 pm)

WORKSHOP: COMMERCIALIZATION AND TECHNOLOGY THROUGH THE LENS OF SEX, GENDER, AND INTERSECTIONALITY (1:45 pm – 2:45 pm)

Learning Objectives

1. Discuss development of tools and technology to measure biological sex and sociocultural gender.
2. Recognize the role of technology in bridging gaps in health care and reducing inequities in rehabilitation.
3. Understand the essential steps for commercialization and intellectual property of health innovations.

CAPTURING SEX AND GENDER FOR INCLUSIVE HEALTH RESEARCH AND EQUITY IN BRAIN HEALTH (2:45 pm – 3:45 pm)

Learning Objectives

1. Present evidence that sex and gender matter in clinical and functional outcomes of people with neurological disorders and injuries
2. Evaluate measures that exist to capture biological sex and sociocultural gender in research
3. Discuss opportunities that emerge from integrating sex and gender with an intersectionality lens into research to identify gaps and address issues of social disparities in health

BREAK (3:45 - 4:00 pm)

IN-CONVERSATION WITH ACADEMIA & INDUSTRY – COLLABORATION OPPORTUNITIES, CHALLENGES, AND ETHICS (4:00 pm – 5:00 pm)	
Mitacs Representative	<i>[tentative, to be invited]</i>
Research Ethics Board – UHN and/or University of Toronto	<i>[tentative, to be invited]</i>
	<i>[tentative, to be invited]</i>

DAY 4: Health Services Research

ARRIVAL AND BREAKFAST (8:00 am – 8:30 am)

MORNING FORUM (8:30 am – 9:30 am)
A dedicated open-discussion period between trainees and mentors, held first thing in the morning of Days 2-5. These discussions will revolve around the concepts learned during the previous day(s) and should confront previous knowledge, perspectives/beliefs, triggering questions or reflections. Approach: After each day, trainees will be asked to write one question or <i>Aha!</i> moments on a piece of paper and hand it to their mentors. The next morning, each mentor will choose the most relevant questions and read them to the group to initiate discussions. All trainees, mentors, and invited speakers/stakeholders will be encouraged to participate in the discussion by reminding evidence, by giving their perspectives and/or by sharing their experience.
Learning Objectives: 1. Encourage trainees to reflect on their learning; 2. Enable trainees to share on their understanding/learning; 3. Help trainees progress in a transdisciplinary research and translational aspects of health research; 4. Offer an opportunity of discussion and interaction, learn and act together; 5. Help trainees to clarify and mentally organize/solidify knowledge.

INTERSECTIONALITY, DISCRIMINATION, AND OPPRESSION IN THE HEALTHCARE SYSTEM (9:30 am – 10:30 am)
Learning Objectives 1. Understand how Indigeneity intersects with sex and gender to create particular form of discrimination and oppression in the healthcare system. 2. Identify safe and respectful research practices with Indigenous patients and communities.

BREAK (10:30 am - 10:45 am)

HOW TO CARRY OUT PARTICIPATORY RESEARCH THAT TAKES ACCOUNT OF SEX AND GENDER ISSUES (10:45 am - 11:45 am)

Learning Objectives

1. Understand how participatory research is essential to enhance the quality of care for patients.
2. Consider steps involved in development of guidelines targeting health inequalities.

PANEL: [TENTATIVE TOPIC] CONSIDERING INTERSECTING IDENTITIES AND ADDRESSING STRUCTURAL BARRIERS TO CARE (11:45 am – 12:45 pm)

[TENTATIVE TOPIC] INTEGRATING INTERSECTIONALITY THEORY IN DATA ANALYSES OF HEALTH INEQUALITIES (11:45 am – 12:45 pm)

[tentative, to be invited]

LUNCH AND NETWORKING (12:45 pm – 1:45 pm)

EMPOWERING HEALTH EQUITY: PERSON-CENTRED CARE FOR ENHANCED OUTCOMES AND SATISFACTION (1:45 pm - 2:45 pm)

Learning Objectives

1. Recognize the importance of person centred-care in the science of health equity
2. Describe key elements of the process of shared decision making
3. Apply a quality appraisal tool or a reporting guideline

CASE STUDY FROM A LARGE ADMINISTRATIVE DATABASE COMPARING THE EFFECT OF GENDER VERSUS SEX (2:45 pm – 3:45 pm)

Learning Objectives

1. Understand how a “gender” score can be derived from population-based health administrative data where gender variables are not included.
2. Understand how variables relating to “sex” and “gender” can be used in statistical modelling.
3. Provide examples of how to compare the effect of sex versus gender for different outcomes of interest.

BREAK (3:45 pm – 4:00 pm)

WORKSHOP: [TENTATIVE TOPIC] KNOWLEDGE TRANSLATION AND GRAPHIC DESIGN - MAKING SEX AND GENDER IN HEALTH RESEARCH ACCESSIBLE (4:00 pm – 5:00 pm)

[tentative, to be invited]

[invited]

Learning Objectives [suggested]

1. Understand how graphic design can facilitate translation of complex sex/gender topics and evidence-based information into accessible and engaging products
2. Discuss the opportunities and challenges of different design mediums to reach diverse audiences
3. Critically evaluate knowledge translation products through practical examples, and discuss strategies to improve clarity, accessibility, and relevance to knowledge users.

DAY 5: Social, Cultural, Environmental, and Population Health Research

ARRIVAL AND BREAKFAST (8:00 am – 8:30 am)

MORNING FORUM (8:30 am – 9:30 am)

A dedicated open-discussion period between trainees and mentors, held first thing in the morning of Days 2-5. These discussions will revolve around the concepts learned during the previous day(s) and should confront previous knowledge, perspectives/beliefs, triggering questions or reflections.

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Learning Objectives:

1. Encourage trainees to reflect on their learning;
2. Enable trainees to share on their understanding/learning;
3. Help trainees progress in a transdisciplinary research and translational aspects of health research;
4. Offer an opportunity of discussion and interaction, learn and act together;
5. Help trainees to clarify and mentally organize/solidify knowledge.

INTERSECTIONAL SEX AND GENDER SCIENCE: METHODS AND RESOURCES
(9:30 am – 10:30 am)

Learning Objectives

1. To learn an intersectional approach to sex and gender based analyses (SGBA+).
2. To become aware of resources for sex and gender based analyses.
3. To identify examples of intersectional sex and gender research that is both quantitative and qualitative.

BREAK (10:30 am – 10:45 am)

WORKSHOP: [TENTATIVE TOPIC] PROMOTING SEX AND GENDER+ RESEARCH ON SOCIAL MEDIA (10:45 am – 11:45 am)

Learning Objectives

1. How to leverage social media to increase the reach of your work and promote understanding of sex and gender+ topics.
2. Implement strategies to engage the public and increase traction of your social media posts.

IN CONVERSATION WITH COMMUNITY (11:45 am - 12:45 pm)

[invited, waiting for response]

The 519 is committed to the health, happiness and full participation of the 2SLGBTQ+ communities. A City of Toronto agency with an innovative model of Service, Space and Leadership, we strive to make a real difference in people's lives, while working to promote inclusion, understanding and respect.

[invited, waiting for response]

LUNCH AND NETWORKING (12:45 pm – 1:45 pm)

GENDER, SEX, AND OCCUPATIONAL HEALTH: MAKING WORKPLACE EQUALITY COMPATIBLE WITH HEALTH (1:45 pm – 2:45 pm)

Learning Objectives

1. Understand the importance of gender and sex in occupational health research.
2. Understand the complexity of analysing data on gender/sex and other inequalities in occupational health.
3. Understand the importance of considering the potential opposition between gender equality and women's health in interventions in occupational health (and consider the applicability of this opposition to other sources of inequality).

[TENTATIVE TOPIC] HUMANIZING CLINICAL MEDICINE FOR EQUITY IN COMMUNITY HEALTH (2:45 pm – 3:45 pm)

[invited, waiting for response]

BREAK (3:45 pm – 4:00 pm)

CONCLUDING THE TRAINING (4:00 pm - 4:45 pm)

- To revisit trainees' expectations for the training program and beyond
- To solicit recommendations for mainstreaming global collaborations in research and partnership in the sex and gender in health research
- To set up follow-up actions to enhance immediate, practical transfer of knowledge and skills and emphasize the fact that research does not end when knowledge has increased, or attitudes changed. Continuous action is required!
- Obtain trainees' program evaluations
- Distribute certificates of program completion

CLOSING REMARKS (4:45 pm – 5:00 pm)