Brief to House of Commons Standing Committee on Health

Regarding the study of the impact of methamphetamine use in Canada and LGBTQ health in Canada

Submitted by
Lorraine Greaves, PhD and Nancy Poole, PhD
Centre of Excellence for Women's Health

Vancouver, April 5th 2019

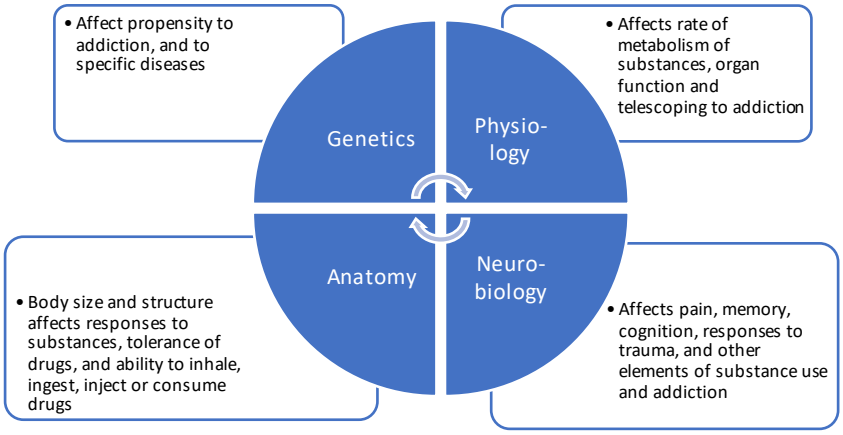
Centre of Excellence for Women's Health

Thank you for the opportunity to address the House of Commons Health Committee. We are attaching the handout circulated at the Committee meeting in Vancouver April 5, 2019. In this brief we describe the importance of including sex and gender in any study of substance use and addiction, as well as specific information on Methamphetamine use and specific information on sexual orientation (lesbian, gay and bisexual) communities and substance use.

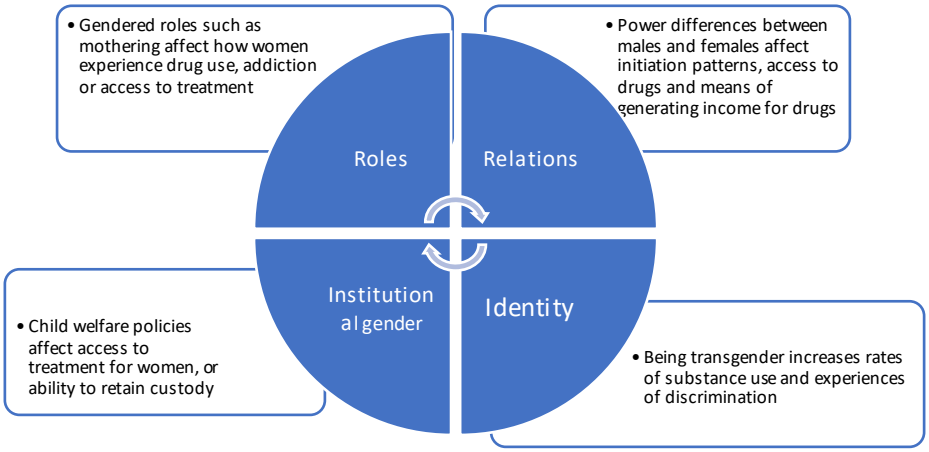
Sex, Gender and Substance Use

Substance use affects all of us (women, men and gender diverse people) differently. There are clearly different rates of use, reactions and effects, if you are female or male. There are different responses from society toward you, if you are a boy or girl, a woman or man, or transgender, or gender non conforming. These differences are due to sex and gender related factors, and their interactions with other aspects such as sexual orientation, age, ability, ethno-racial or Indigenous status, income or geographic location.

Sex-related factors such as biological, anatomical or genetic features affect how we react to drugs, alcohol and other substances, and what kinds of effects they may have on our health and lives.



Gender-related factors such as our roles, relationships, power, income, laws and policies affect how we initiate, maintain and get stigmatized or treated for substance use.



Sexual orientation also affects substance use: All gender groups experience a range of sexual orientations, and these can change over time. Gay and lesbian people experience higher than average rates of substance use. Bisexual girls and women have the highest rates of substance use and addiction. Overarching discrimination and stigma may contribute to these patterns.

We have created guidance for service providers and health system planners that support the integration of sex, gender, sexual orientation and equity influences and factors. For example, the New Terrain document. ***See page 5 for more examples.***

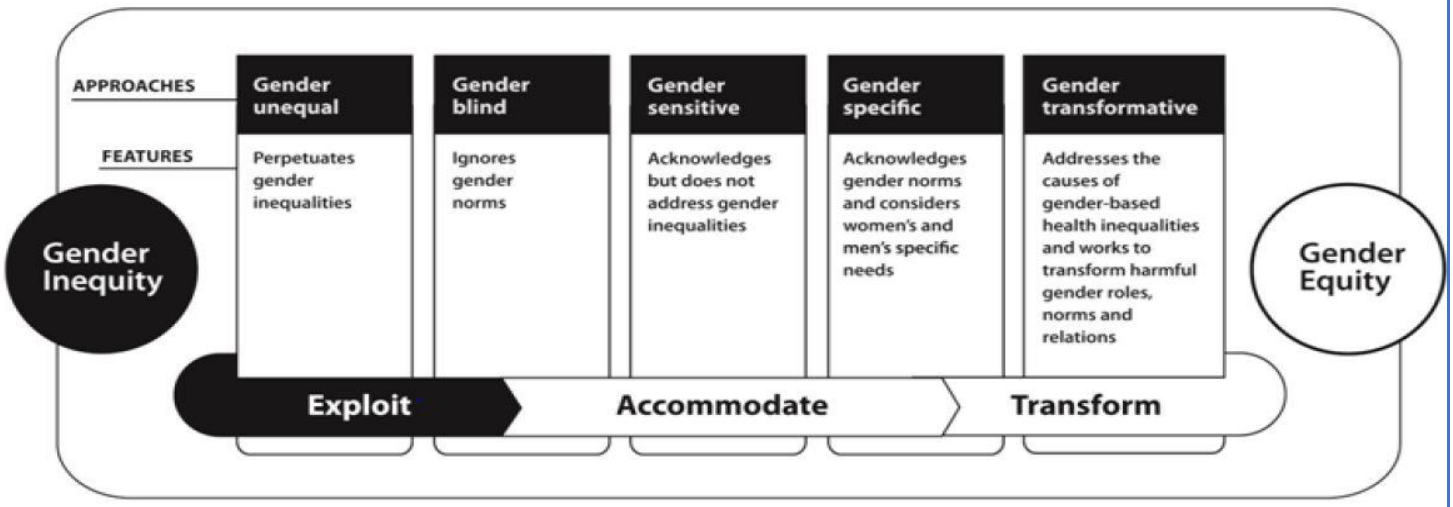
Gender and sex matter in substance use

Here are some examples of how

	Gender influences on pathways	How sex matters	Consequences and Health impacts
Women	Women are more likely than men to report having a partner with a substance use issue, and to report relationship issues as a reason for their substance use [1].	Women require smaller amounts of alcohol to become intoxicated, due to lower levels of body water [1]. Estrogen may increase the rewarding effects of substances, in part through the interaction with dopamine transmission or the hypothalamic-pituitary-adrenal (HPA) axis during times of stress [2, 3].	Medical side effects from substance use tend to develop more quickly among women including: cancer, liver disease and cardiac complications, osteoporosis, mood and anxiety disorders, neurological deficiencies and immune system suppression [4, 5].
Men	Men are more likely than women to report beginning substance use for social reasons or sensation seeking [2, 6, 7].	Men report fewer negative effects with MDMA (ecstasy) use than women including dizziness, depression, psychotic symptoms and sedation, in part due to quicker synthesis and larger reserves of serotonin [8]..	Men are more likely to use illegal sources of opioids, and die from an opioid overdose [9]. Men who use cannabis are more likely to report dependence or severe dependence on cannabis than women [10].
Transgender	Substance use may be used by transgender youth to conform to gender roles within the context of negotiating gender identity [11].	There is limited information on biological responses to substances among transgender populations, and there is great heterogeneity among the trans population [12] . Hormone therapy may impact the mechanisms of drugs and alcohol, and substance use treatment, but this requires further research.	Substance use has been associated with high-risk sexual behaviour and HIV infection in studies with trans populations [13, 14]. Trans women have a greater burden of risk for HIV (34.2 greater odds compared with the general US population) [15].

Moving past gender blind responses

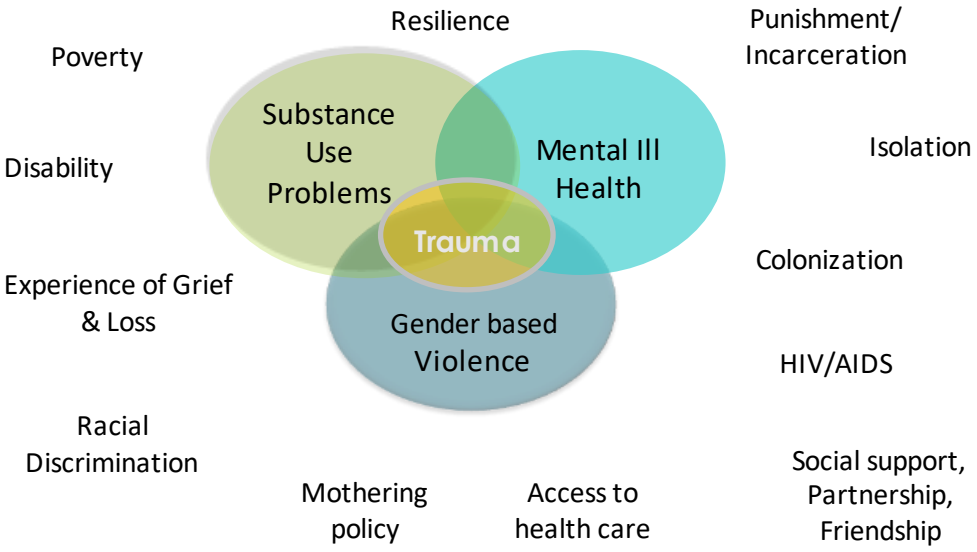
Much of the response to substance use and addiction has been gender blind. We need to be sex/gender informed and gender transformative in our approaches to health promotion, harm reduction and treatment



Source: Making it Better: Gender Transformative Health Promotion Greaves, Pederson, Poole (2014) page 22

Social determinants of health matter

Over the past decade we have developed this image to depict how women's substance use problems are closely linked to their experiences of trauma, mental ill health and gender-based violence, and are influenced by social determinants of health.

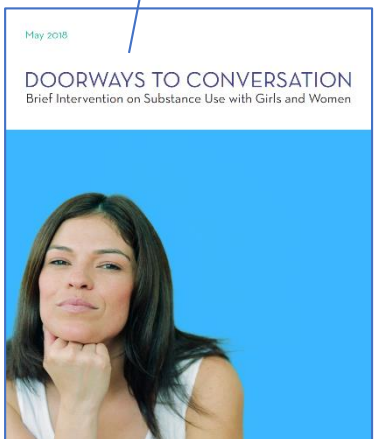


A gender responsive substance use response continuum addressing social determinants matters

Therefore, a wide continuum of responses to substance use is required: for example the opioid crisis calls for the integration of housing and sexually transmitted disease strategies, and requires a harm reduction and cultural safety lens.

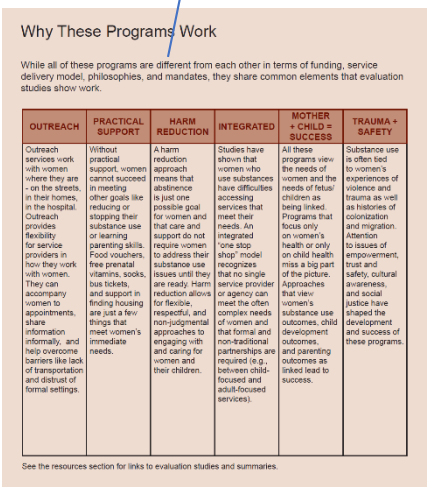
From CCSA ***Best Practices across the Continuum of Care for the treatment of Opioid Use Disorder***

Continuum of Care								
Harm Reduction								
Screening	Assess-ment	Brief Interven-tions	*Rapid Access Clinics	*Community Outreach	Withdrawal Manage-ment	Pharmaco-logical Interven-tions	Psychosocial Interven-tions	Recovery, Sustaining Wellness & Ongoing Care



Screening that builds relationship and supports engagement by women

Women only overdose prevention sites that ensure safety and support



Holistic community based programming for pregnant women such as Sheway

Sex, gender and methamphetamine

Methamphetamine is an old drug, that works by altering levels of three neurotransmitters in the brain: dopamine, noradrenaline, and serotonin . With chronic use, tolerance increases and brain injuries, heart damage, dental decay and hallucinations can occur. Upon withdrawal, such damage can be revealed in memory issues and mood swings.

Sex and Meth: Some research has been done on pregnancy and meth and the impacts on the fetus and infant, which include cleft palate, brain malformations, delayed development, aggression and low birthweight. On wider sex and gender issues, Dluzen and Liu reviewed e xisting studies in 2008 and concluded:

> "**Women tend to begin MA use at earlier ages, appear more dependent on MA, but also respond better to treatment than do men. MA use appears to be associated with depression in women, and women seem more committed to MA, whereas men are more likely to use other drugs in the absence of access to MA. Female MA abusers had both larger volumes within the corpus callosum and more hyperperfused regions in the parietal and occipital areas of the brain, along with more genetic alterations but less MA-induced toxicity. When considered in total, women seem more dependent on and committed to MA but show diminished (amphetamine-stimulated) dopamine responses and a decreased degree of toxicity, as indicated by a lower incidence of emergency department-related deaths involving MA. A pervasive comorbidity of depression or depression-related characteristics were present in women MA users, suggesting that MA may serve as a type of self-medication for their depression. These findings not only highlight the need for consideration of gender when assessing MA use, but also can serve to direct efforts at prevention and treatment programs that address the specific needs of men and women"**
>
> (Dluzen, D and Liu, B. Gender differences in methamphetamine use and responses: A review. Gender Medicine, 2008)

Gender Issues: Women and men appear to have different trajectories in meth use, with women starting to use meth at younger ages.

> "**Females report using methamphetamine to escape or deal with their emotional problems, to deal with family problems, to increase productivity, to lose weight, and to improve strength. In contrast, males more often report using methamphetamine to be more productive, because their parents also used drugs, or for curiosity. Males and females were equally likely to report using methamphetamine because it was easy to obtain."**
>
> (McCormick et al, Responding to the Dangers of Methamphetamine - Towards Informed Practices, 2007)

Sexual Activity and Meth: Meth is often referred to as a "party" drug, used in raves, dances, and nightclubs. It is considered to be more popular with gay men, but heterosexual women also report enhanced sexual pleasure on meth. (Lorvick et al, 2013, Sexual Pleasure and Sexual Risk among Women who Use Methamphetamine: A Mixed Methods Study). For all populations, meth use is associated with risky sexual behaviour and increases in STDs and HIV transmission.

Sexual orientation and substance use

Sexual orientation describes a person's sexual, romantic, and/or emotional attraction to another person (for example: heterosexual, gay, lesbian, bisexual, queer). Sexual orientation is often conflated with gender but all genders have a range of sexual orientations. Rates of use by lesbian, gay and bisexual individuals vary by substance but range from 2 to 4 times those found in heterosexual populations (Northpoint Washington Addictions Centre). Reasons for this association include: minority stress; discrimination and prejudice; lack of appropriate services and treatment; corporate marketing, past trauma. Examples of rates of substance use by sexual orientation groups from the US 2015 National Survey on Drug Use and Health:

- Misuse of prescription opioids, 10.4% versus 4.5%
- Misuse of prescription tranquilizers, 268% higher rate
- Cocaine use, nearly triple
- Use of hallucinogens more than triple
- Heroin use, triple
- Meth use, almost quadruple
- Misuse of prescription stimulants, more than double
- Misuse of prescription sedatives, double

Lesbian and bisexual girls are more likely to report: illicit substance use and misuse of prescription drugs; and binge drinking; tobacco and alcohol use and poorer mental health compared to heterosexual girls.

Smith, A., et al., *From Hastings Street to Haida Gwaii: Provincial results of the 2013 BC Adolescent Health Survey*. 2014, McCreary Centre Society: Vancouver, BC.

Needed remedies include:

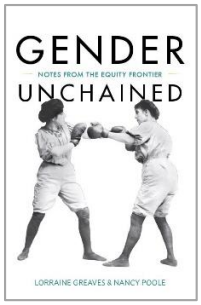
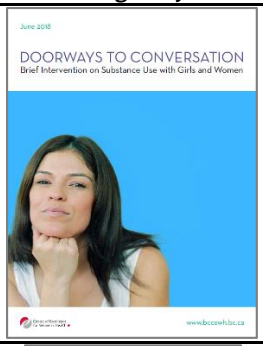
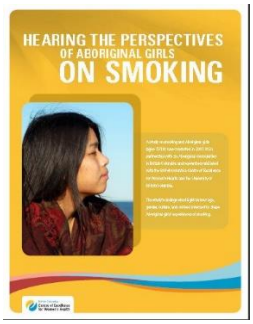
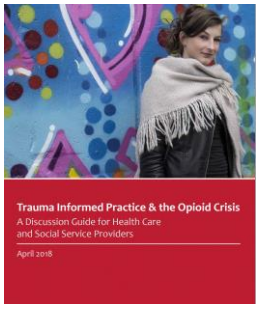
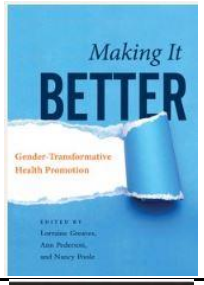
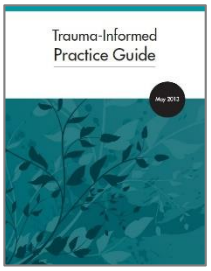
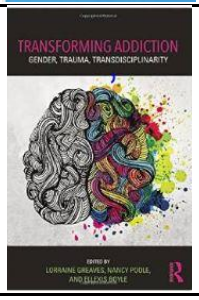
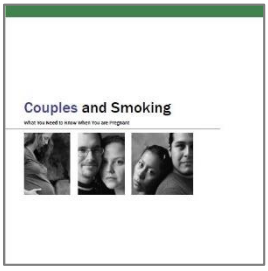
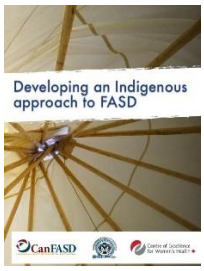
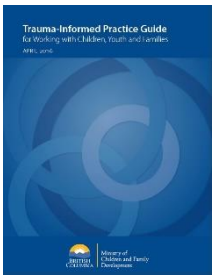
- Tailored prevention, treatment, health promotion
- Training of health care providers and addictions workers in culturally appropriate knowledge and responses
- Differentiation by element of sexual orientation, and clear distinction from gender identity in research and treatment
- SGBA+ to ensure appropriate care, cultural safety and tailored messaging

Risk factors for substance use among boys include: masculine gender norms, lack of parental monitoring, depression, anxiety and externalizing behaviours, and peer pressure by same gender peers In addition, the risk of substance use is heightened for boys of immigrant background, ethnic minority and of lower income and boys who are gay or bisexual.

Corliss, H.L., et al., Sexual orientation and drug use in a longitudinal cohort study of U.S. adolescents. Addictive Behaviors, 2010. 35(5): p. 517-521.

Centre of Excellence for Women's Health The CEWH brings research evidence to practice and policy to improve girls and women's health and to integrate gender into health services and research. We work with all sectors to develop projects relevant to researchers, health and social service practitioners, policy makers and community-based women. We are an independent, non-profit Society registered in BC and hosted by BC Women's Hospital + Health Centre, an agency of the Provincial Health Services Authority, and governed by an independent Board of Directors. *Lorraine Greaves* is Senior Investigator and *Nancy Poole* is Director

Examples of resources produced by CEWH

Books	Pregnancy	Indigenous women's health	Trauma informed practice
			
			
			

References (page 2 chart)

1. Tuchman, E., *Women and addiction: the importance of gender issues in substance abuse research.* Journal of addictive diseases, 2010. **29**(2): p. 127-138.
2. Mitchell, M.R. and M.N. Potenza, *Importance of sex differences in impulse control and addictions.* Frontiers in psychiatry, 2015. **6**.
3. Becker, J.B., A.N. Perry, and C. Westenbroek, *Sex differences in the neural mechanisms mediating addiction: a new synthesis and hypothesis.* Biology of Sex Differences, 2012. **3**(1): p. 14.
4. Kay, A., et al., *Substance Use and Women's Health.* Journal of Addictive Diseases, 2010. **29**(2): p. 139-163.
5. Rehm, J., et al., *Alcohol as a risk factor for liver cirrhosis: A systematic review and meta-analysis.* Drug and alcohol review, 2010. **29**(4): p. 437-445.
6. Muller, S. and E. Kuntsche, *Do the drinking motives of adolescents mediate the link between their parents' drinking habits and their own alcohol use?* J Stud Alcohol Drugs, 2011. **72**.
7. Kuntsche, E. and S. Muller, *Why do young people start drinking? Motives for first-time alcohol consumption and links to risky drinking in early adolescence.* Eur Addict Res, 2012. **18**.
8. Pardo-Lozano, R., et al., *Clinical pharmacology of 3, 4-methylenedioxymethamphetamine (MDMA,"ecstasy"): the influence of gender and genetics (CYP2D6, COMT, 5-HTT).* PLoS One, 2012. **7**(10): p. e47599.
9. Gladstone, E.J., K. Smolina, and S.G. Morgan, *Trends and sex differences in prescription opioid deaths in British Columbia, Canada.* Injury prevention, 2015: p. injuryprev-2015-041604.
10. National Academies of Sciences, E., and Medicine,, *The health effects of cannabis and cannabinoids: The current state of evidence and recommendations for research.* 2017, The National Academies Press: Washington, DC.
11. Reisner, S.L., et al., *Gender Minority Social Stress in Adolescence: Disparities in Adolescent Bullying and Substance Use by Gender Identity.* The Journal of Sex Research, 2015. **52**(3): p. 243-256.
12. Scheim, A.I. and G.R. Bauer, *Sex and Gender Diversity Among Transgender Persons in Ontario, Canada: Results From a Respondent-Driven Sampling Survey.* The Journal of Sex Research, 2015. **52**(1): p. 1-14.
13. Mizock, L., *Transgender and Gender Diverse Clients with Mental Disorders.* Psychiatric Clinics of North America, 2017. **40**(1): p. 29-39.
14. Glynn, T.R. and J.J. van den Berg, *A Systematic Review of Interventions to Reduce Problematic Substance Use Among Transgender Individuals: A Call to Action.* Transgender Health, 2017. **2**(1): p. 45-59.
15. Rowe, C., et al., *Prevalence and correlates of substance use among transfemale youth ages 16–24 years in the San Francisco Bay Area.* Drug and Alcohol