Sexual orientation, gender identity, and sex characteristics in case diversification (v2)

Background

When people come for medical care, some are very accustomed to their sex and their gender being non-problematic: for example, they have a name that is read as a man's name, they appear in ways that people consider masculine, they have been boys, then men; people address them as "he." They were assessed as male at birth and they have the "expected" male anatomy, physiology, and chromosomes. Their partners or spouses are cis women who could say parallel things of their sex/gender identities, biological sex characteristics, sexual orientation, and family relations. Their health record reflects this, and they are never asked what their identity is.

For cis women, a problem begins already at this point. Although cis women's gender identity is treated as non-problematic in their relationship with their physician, medicine has long treated the male body as the "norm" and has only recently begun to include other sexes and genders, including cis women, in basic and translational research (Mauvais-Jarvis et al. 2020; CIHR 2021). For example, questions about the safety and efficacy of drugs cannot be answered in the context of pregnancy because potentially pregnant people were excluded from research.

Some people, in addition to having been neglected by medicine, have also been misunderstood, misrecognized, and mis-gendered (addressed as a sex/gender they do not identify with), or they face mistaken assumptions about the primary relationships of their lives and their sexual activities, and they must correct these mistakes, knowing that it is always a tricky matter to correct other people's assumptions. And beyond these communication challenges, many sexual and gender minorities have experienced pathologization and violence at the hands of the medical profession: homosexuality was classified as a sociopathic personality disorder, and surgery and hormone use to "correct" variation in sex characteristics (VSC; also called Differences in Sexual Development (DSD)) without patient consent was common. Forced sterilizations were performed on gender non-conforming people, as they still are in the intersectionality of gender-based violence and anti-Indigenous racism in Canada (Leason, 2021).

Many medical assessments and procedures are "binarized"—that is, medicine has for centuries characterized "male" and "female" as exclusive categories (Fausto-Sterling, 1997, 2000; Karkazis, 2019). As a result, physicians are uncertain how to use the scientific basis of medicine in the care of people who do not fit into these binaries.

Assumptions about sex, gender, and sexual orientation are deeply embedded in language and thought, and we must do better. It takes some practice to learn to use language that does not make assumptions and to ask safely and respectfully what and when you need to know. As governments take a human rights approach to allowing persons to specify their own gender identity in official documents (in NB and NS, persons may select M, F, or X for "gender" on their health cards), and as more people have access to gender-affirming medical care (e.g. surgery and hormones), it becomes increasingly important not to assume that patient sex characteristics can be predicted from health cards or medical records.

Given the histories and current realities of gender-based violence and colonialism, we need to go beyond questioning assumptions to practicing trauma-informed care.

Our approach in case diversification is to foster a medical culture where dominant assumptions are challenged, and where we seek to improve care for people who have previously had no, little, harmful, or substandard care. To do this, we treat Two Spirit, trans, non-binary, variations in sex characteristics, and other gender non-conforming people as our model patients when we discuss sex and gender, because they are the ones who are most negatively impacted by understanding sex and gender in binary ways.

At the same time, as biomedical researchers begin to take sex differences into account in their work, we are developing a better scientific understanding of the influence that being born with XX or XY chromosomes has on growth and development in utero, during childhood, and on the development and prognosis of disease. There are anatomical and physiological influences of chromosomal sex on biomarkers, organ function and risk factors beyond the development of specific sex-typed reproductive organs and patterns of hormonal dominance (Mauvais-Jarvis et al., 2020; see CIHR's decade of funded research on sex as a biomedical variable https://cihr-irsc.gc.ca/e/49988.html).

Importantly, intersectionality and gendered norms also influence exposures and gene-environment interactions: how people of different gender identities are treated differently in society and within the medical system interacts with biological differences (Krieger, 2003).

Medicine is in the early stages of developing an adequate understanding of the complex interplay between biology and society. CIHR now requires researchers to consider and justify how they capture sex as a biological variable and gender as a sociocultural factor, and how they capture a diverse range of sex characteristics and gender identities (CIHR, 2021). As things stand, our current evidence base is "cisnormative". Researchers are only now allowing research participants to represent accurately the complexity of their sexual and gender identities (Rioux et al, 2022).

Some basics

- "Sex" refers to anatomical and physiological traits (genitalia, gonads, chromosomes, hormones, and secondary sex characteristics). Sex is typically assigned at birth by medical professionals as either male or female, based solely on visual inspection of external genitalia. However, there is variation in the biological attributes that contribute to sex assignment and in how those attributes are expressed (NASEM, 2022).
- "Gender" refers to social characteristics, including roles, behaviours, activities, attributes and opportunities, and also relationships between people and the distribution of power within those relationships (WHO, 2023).

Both sex and gender are clinically and medically relevant to patient communication and to good medical care (NASEM, Conclusion 1, p. 8; WHO Institute of Gender and Health).

They are also both multidimensional constructs, complex, and change over time (NASEM, 2022).

Persons with variations in sex characteristics (VSC, also called DSD) have sex traits that do not correspond to a single sex and may have their sex characteristics altered surgically or hormonally over time in treatment. People with transgender identities may also have their biological sex characteristics altered over time if they pursue gender-affirming surgical or hormonal treatment (NASEM, 2022).

In addition, sex and gender are not independent, but influence one another. The effects of biology and social roles may be difficult or impossible to disentangle. For this reason, in some fields of health studies, “sex/gender” is used to indicate that it can be unwarranted, based on evidence, to assign health influences or outcomes to either biology or social factors alone (Krieger, 2003; Fausto-Sterling, 2005; Rioux, 2022; NASEM, 2022). There are pathways by which social ideas about gender influence and bias our perceptions of sex, and pathways by which biological features of sex intersect with social determinants (Krieger, 2003).

As many as 1.7 in 100 persons may have naturally occurring variations in sex characteristics so that they don’t fit into these boxes (NASEM, 2022). As many as 1 in 200 over all age groups in NS identify as trans or non-binary; for young adults, this is 1 in 100 (Stats Canada, 2022). Some of those who identify as trans will have surgical or hormonal affirming care that changes their biological sex characteristics. People are fighting, and winning, human rights battles to take control of how their gender and their sex are documented in official sources, so clinicians will be working with medical records where the options M F and X (and others) are selected by patients.

These numbers may sound low, but they mean that at least a handful of patients seen every week by a given health care provider do not fit into the boxes that medical research and practice tries to fit them into. Medicine constructed the binary categories of male and female by activities such as ignoring natural variation in the construction of “normal” or “ideal” types, actively suppressing variations in sex characteristics through surgical “correction” of atypical genitals to meet social and medical ideals of how males and females should look. Until recently, medicine also reinforced a requirement that trans persons surgically and hormonally progress between binary sexes. In this sense (and others), although “sex” refers to biology, sex is also socially constructed.

The National Academies of Science, Engineering and Medicine (NASEM 2022) Report to the National Institutes of Health includes the recommendation that persons with VSC (DSD) not be treated as a “third sex” in clinical, research, and administrative contexts, but that information about the diagnoses that are clustered together as VSC (DSD) be ascertained separately from sex. Although the term “intersex” is in use in human rights contexts, conditions that lead to VSC are diverse; people with VSC have a sex assigned at birth and retained or changed throughout their lives based on their specific clinical condition, their life history, and their own decision-making.

Where someone’s **gender identity** is the same as the sex they were assigned at birth on the basis of visual anatomical inspection, they are cisgender (cis for short). Where they are not the same, they may identify as transgender (trans for short) or non-binary. Other terms are in use and new ones emerge, such as genderfluid, genderqueer, or agender (Richards et al., 2016). In many cultures there is specific and untranslatable language for a third sex, such as “hijra” in India and “Two Spirit” in the contemporary Indigenous context

Sexual orientation refers (in part) to sexual attraction between people of various sex/genders, but also to romantic and emotional attraction. Orientation and activity are different.

The umbrella term for non-cisgender, non-heterosexual persons is **2SLGBTQIA+** (Two Spirit, lesbian, gay, bisexual, trans, queer/questioning, intersex, asexual +). With some practice, you can say this phrase as readily as any complex drug name or anatomical term. It is an inclusive term for a community that values inclusivity; do not shorten it and do not mock it.

Sex/gender identity and sexual orientation are closely related (van Anders, 2015) and we live in a time of cultural change. People are working through different ideas about how to live with and challenge gender stereotypes and sex binaries (Richards et al., 2016). Be respectful and interested in different identity configurations. Be aware that when you are learning, you might say things that sound like you are challenging the way people are making sense of themselves, which would not be appropriate. If it sounds to you like someone is challenging, rather than trying to understand, someone's gender identity or sexual orientation, this can be raised for discussion, just like a dated and derogatory term can be questioned. The tutorial is a place for learning. See the document "Introduction to case diversification for students and tutors" for suggestions about safety in tutorials.

Definitions

Queer	Umbrella term in activist and academic circles (e.g. Queer studies) for both gender identity and sexual orientation. For individuals, a term that some people have reclaimed for themselves. It was once an insult but is now used with pride. Some 2SLGBTQIA+ persons have not reclaimed it and find it derogatory. A gender identity or sexual orientation in itself (for nonbinary identity or non-straight persons).
Bisexual	A person attracted to more than one gender. Some people use other language (e.g. pansexual) because "bisexual" still refers to two sexes/genders and they question or reject this binary.
Two Spirit	An Indigenous term for gender and sexual variance. In Canada it is listed first, and it has its own distinctive meaning and history that cannot be summarized in a table.
Asexual/ aromantic	Someone who does not experience sexual and/or romantic attraction. This is not a disorder and is different from abstinence.
Sex/gender identity	The sex or gender a person *identifies* as. Identity is not the same thing as gender *expression.* *The term "gender identity" is common, as are the terms "trans man" and "trans woman," but many trans persons identify as male or female as much as they identify as men or women.*
Non-binary	An umbrella term for sex/gender identities that are not solely male or female/man or woman—identities that are outside the gender binary. There are growing numbers of terms that reflect changing thinking and experience around sex/gender binaries, e.g. genderfluid, genderqueer, agender, etc. If patients use unfamiliar terms in defining their own sex/gender identities, it may be appropriate depending on the relationship to invite them to share their own interpretations of the labels.
Gender expression	Behaviour in ways considered societally to be masculine, feminine, or androgynous. Cis or trans men, women, and nonbinary people or genderqueer people can be perceived by society, or adopt for themselves, masculine, feminine or androgynous gender expression.
Transgender	Person who does not identify with their assigned sex at birth (ASAB). Sometimes also used to include any person who experiences gender variance (including non-binary).

	It is appropriate to shorten to “trans”, but it is always an adjective, not a noun. People are not “transgender**ed**” but transgender. It is appropriate to write “trans men” and “trans women” as separate words (short for transgender women and men).
Variations in sex characteristics (VSC)	Variation in sex characteristics (VSC; where anatomical and chromosomal sex characteristics do not fit into the conventional binaries), occur naturally in 1-2% of births. These may also be called intersex conditions (particularly in a human rights context), or differences in sexual development. “Disorders of sexual development” (DSD) is a common medical term that may be stigmatizing as some persons consider their VSC as a naturally occurring variation and not a disorder.
Cisgender	Person who identifies with their assigned sex at birth. Cisgender people may not be accustomed to using this term to describe themselves.
Questioning	A person may identify themselves as uncertain of and actively reflecting on their sexual orientation or sex/gender identity.
Gender dysphoria	This is a psychiatric diagnosis relating to an distress in relation to incongruence between a person’s assigned sex and their gender identity. It is an imperfect term (not all trans people experience “dysphoria” or distress). Diagnosis is important for access to services. It was chosen in DSM-5 to de-pathologize trans and other diverse gender identities.
ASAB; natal sex	Assigned sex at birth (ASAB; also assigned female at birth (AFAB) and assigned male at birth (AMAB)) is on the basis of observation of external genitalia. The phrase has different implications in different context. It should not be used as a short-hand for so-called “real sex.” From the ASAB for trans persons, we often try to infer the anatomy, chromosomes, and physiology they had a birth; typically this was not confirmed beyond superficial visual inspection of the external genitals. For persons with variations in sex characteristics (VSC), ASAB indicates the ***false*** assumption that they have the normative chromosomes, physiology, and anatomy characteristic (by definition) of that sex. “Natal sex” refers to the idea that the ASAB (for trans persons) is a reliable indicator of their unobserved sex characteristics. This is an idealisation; typically, internal organs and chromosomes have been assumed, not empirically assessed at birth. Often it is better to gather the anatomical and physiological and genetic information needed in the specific context of the specific patient, rather than inferring these from the sex assigned at birth.

Case diversification approach

In the diversified case-based learning (CBL) cases, patients have a variety of sexual orientations, gender identities, and variations in sex characteristics. In addition, stereotypes about gender roles and binaries are challenged, including gender and binary stereotypes about disease prevalence (e.g. the stereotype of heart disease as experienced by cis men and breast cancer by cis women).

The CBL patients have a variety of family forms and caregiving arrangements. CBL cases strive to be consistent with best clinical practice in inclusive and affirming patient-centred care.

In addition, the biomedical sciences are changing to better depict a range of sex and gender identities beyond the “standard” male subject of biomedical research, and to communicate the current biological understanding of the complexity and diversity of sex (Long et al. 2021; Karkazis 2019). Hence the

biomedical science in cases has been amended to reflect current critical evaluation of practice and emerging best practices.

Clinical approaches: affirming and trauma-informed care

The case diversification process *portrays* affirming and trauma-informed care to address the hidden curriculum that results when affirming and trauma-informed care are taught in Skilled Clinician or ProComp but not reflected in CBL cases.

Key elements of a good clinical approach are to ensure that the clinical environment is an affirming and inclusive one and to signal this (e.g. by posters; in intake; see National LGBT Education Center), and to **ask** patients how they identify and the language they use and ask if there have been changes between appointments. Clinical care guidelines and practices are rapidly evolving; feedback is welcome to improve this depiction and keep it up to date.

It is always important to explain why the information you are asking for is relevant to the interaction and health care goals of the patient (a general principle of trauma-informed care), but especially in the care of 2SLGBTQIA+ people. For trans, nonbinary, and Two Spirit persons, the assumption that their assigned sex at birth (ASAB) is their "real sex" is derogatory. Disclosing sexual orientation and/or gender identity does not equal permission to discuss sexual activities and bodies beyond what is medically required. Sometimes the clinician and patient need to share a full sexual history focused on sexual activities, assess specific sex characteristics, disclose the sex assigned at birth, or discuss discrepancies between the health card and the health record or changes to the health record. With explanation and clarity, misunderstandings can be avoided.

The routine inclusion of sexual orientation and gender identity in CBL cases does not mean that this is part of a check-list the physician must complete when meeting patients. They are included to challenge the assumption that patients are straight and cis gender unless it is "medically relevant" (a clue for diagnosis) for them not to be. 2SLGBTQIA+ patients present for clinical care in all contexts and for all conditions.

Pronouns

In the CBL cases, pronouns are provided for all patients and their family/carers involved in the case, and these should be used in tutorial discussion.

Where someone's gender is not specified in the cases, "they" is used (instead of "he" or "he/she," which is cumbersome and leaves out non-binary people). When "they" is used to refer to an individual (whether because gender is unknown or because the person's pronouns are "they/them"), style guides currently recommend that "they" takes a plural verb.

Best practice within the tutorial group is for those who are comfortable to share their pronouns and model that they are contributing to a safe space to do so, and to leave it open for everyone in the tutorial group to do the same if they wish, but not to require or pressure people to share their pronouns. The tutorial setting should be, but may not in fact be, safe.

Cisgender persons may be less accustomed to sharing their pronouns, relying instead on the assumption that they will be identified by the pronouns of their cisgender. Stating one's pronouns can be a matter of making this assumption explicit, rather than revealing a personal, felt gender identity. It is good for learners to explore this over time, as it is expected professionally in at least some contexts to share pronouns, and it is part of creating an inclusive/affirming practice to do so.

Sex/gender identity

In the CBL cases, patients are described as cis or trans men or women, or as non-binary when they do not identify as either men or women. Sometimes another term is used (genderqueer, agender, genderfluid, etc.) instead of nonbinary.

We keep the language of existing research and clinical tools (male/female; men/women) and note limitations in study populations and alternative tools for trans populations and persons with variations in sex characteristics where we have found them. Many areas of clinical practice are responding to the call from WPATH (World Professional Association for Transgender Health) Guidelines v. 8, Statement 15.3:

> We recommend health care professionals tailor sex-based risk calculators used for assessing medical conditions to the needs of transgender and gender diverse people, taking into consideration the length of hormone use, dosing, serum hormone levels, current age, and the age at which hormone therapy was initiated (Coleman et al 2022)**.**

In many clinical presentations, sex as a binary construct traditionally employed in medicine is one important consideration (along with many other factors including age, medical history, etc.) in differential diagnosis, choice of diagnostic testing, interpretation of test results through reference ranges, and treatment. When relevant, physician can ask patients in a trauma-informed way about specific sex characteristics relevant to clinical care, or, if necessary, the sex assigned at birth (ASAB) or any diagnosis of variations in sex characteristics (VSC; also called DSD) that the patient may have.

Sexual orientation

Sexual orientation includes sexual, romantic, and affective dimensions. In clinical care, it is socially important to know people's self-identification and family configurations in order to provide patient and family-centred care, to work with patients and colleagues respectfully, and to plan for addressing caregiving needs without making assumptions. Sometimes, in order to address the patient's health care goals, it is important to know specifics of patients' sexual activities. Types of sexual activity cannot be assumed. We must pay particular attention to this as it is often an unconscious assumption that sexual orientation as a self-ascribed social identity is exclusively associated with particular types of sexual activity. For many people, it will take practice to separate these dimensions and notice when we are making assumptions, take a step back, and clarify sexual activities as distinct from sexual orientation.

In case diversification, a variety of terms and descriptions of life situations are given in the patient-centred descriptions to reflect these kinds of complexities and avoid treating sexual orientation as a simply binary, or even as a simple continuum along a single dimension. Some people reject labelling as such, for example they might not accept any label that goes beyond their current emotional and sexual involvement with particular persons.

People might or might not share their sexual orientation with their healthcare providers, and they might be concerned about why they are being asked to share this information (Rossman et al., 2017). Discussions of sexual orientation are very relationship-dependent; safety matters and safety is in the eye of the patient. They might be concerned about potential discrimination or they might want to protect their privacy, for example. However, they still appreciate providers not assuming everyone is heterosexual and cisgender.

Adolescent and pediatric patients

While some trans or queer persons report always knowing their sexual orientation or sex/gender identity, this is not a universal experience. For pre-adolescent children in the cases, the child's pronouns, an indication of parenting style (e.g. they are being raised as a cis girl or boy, or as non-binary), and a description of the child's own expression are given in the CBL cases, on the basis of evidence about the development of gender identity and sexual orientation (Canadian Pediatric Society, 2021). There is no assumption that this is their fixed identity, and at the same time it is not appropriate to dismiss the gender expression or sexual/romantic interest of youth as "just a phase" (Vincent 2018, Chapter 6). As with adult non-binary patients, an assessment must be made whether specific sex characteristics need to be assessed clinically for pediatric non-binary patients, and this must be handled in a trauma-informed manner.

In adolescence, a variety of ways that young adults define themselves are portrayed, without imposing identities that might not be settled until later in life or may continue to be fluid. For example, a young person may identify as lesbian first and later non-binary; or vice versa. Alongside adolescent and children's sexual orientation and gender identity, information about whether they share this with family and with healthcare providers is provided in the cases. In clinical care, respecting the privacy of adolescent patients is paramount, and this includes clarifying which parts of their identities it is okay to speak about in the presence of their parents.

Sexual and reproductive health care; childbirth and parenting

When discussing patients in general, we will show "inclusive" and "additive" approaches to language in different cases (Moseson, 2020; MacKinnon, 2020; Jennings, 2022). For example, "pregnant women and people" is additive and "pregnant people", or "pregnant patients" is inclusive.

In CBL cases, we will model asking the patient for the language they use. See for example this guidance for menstruation from the Columbia Mailman Public School of Health. Note that as specialties respond to the imperative to provide better inclusive and affirming care, what current counts as "standard medical language" may change to inclusive language. Critical discussion of standard medical language and alternatives should always be welcome in tutorials.

Inclusive language in anatomy, genetics, and other basic science fields

At the current time, in many areas of medical science, "male" and "female" continue to be treated as binary terms, assuming certain combinations of anatomical, genetic (chromosomal), and hormonal characteristics.

However, it is well-known biologically that sex is not a simple binary (Karkazis, 2019; Long, 2021). There are natural variations in sex-identified traits, called variations in sex characteristics. The curriculum covers this basic science material in the Human Development Unit (end of Med 1), so learners are prepared to discuss these variations in some detail.

In addition, some people who are trans will have transformations of sex (biological) characteristics by hormone use or gender-affirming surgery. Because of growing awareness of variations in sex characteristics *and* because of the clinical importance of trans-inclusive care, clinical and basic scientists are exploring ways to more adequately understand and accurately represent the diversity of sex traits. This is still a work in progress. The Case Diversification Committee supports the curriculum in navigating these changes, and we encourage learning and using newer inclusive language not just for patient care,

but in the basic biomedical sciences. Sometimes language that assumes binaries will be modified to directly state the particular sex-related characteristics that are clinically important in the case. Sometimes sex binary language is retained, due to the importance of students understanding language as it is used now in the clinical context, but explanatory notes and suggestions for modifying language with trans and nonbinary patients is included for learners and tutors.

Inclusive language is respectful in patient communication and also contributes to developing biomedical research that addresses harms and medical neglect for persons whose sex traits do not fit the traditional binary.

Best practices in post-secondary biology teaching are consistent with inclusive and affirming medical practice. They include: treating biological diversity as normal; providing historical and cultural context where sex binaries are employed; using factual descriptions (hormones, chromosomes, organs, functions) instead of binary terms; showing the iterative process of science (letting learners know when scientific practices and language are changing); and addressing diversity and inclusion in the learning environment (Zemenick et al., 2022; see also the National Science Teachers' Association (Long, 2021)).

Where global physiological developments affect health, as these are understood to be governed by chromosomes from conception, it may be necessary to refer to the sex characteristics of patients insofar as they were known (or, most likely, assumed) at birth. Clinically, it is important to explain this to non-binary or trans patients, or persons with variations in sex characteristics, in a trauma-informed way, so that they understand the clinical need for this information.

Notes

- Don't refer to "preferred pronouns"—they are just people's pronouns. Similarly, "sexual preference" is considered derogatory; "sexual orientation" is preferred.
- "Homosexual" is not a polite way of saying "gay" or "lesbian" or "queer." It is considered an old-fashioned and medicalized term for sexual orientation and should be avoided.
- Use descriptive language in reproductive and sexual health contexts without unnecessary references to male/female or men/women. Social norms, clinical practice, and research is evolving to better address and include the reproductive experiences of trans persons (Moseson et al. 2020).
- Don't say "real sex" when you mean "sex assigned at birth" or "natal sex". When you are curious about the sex assigned at birth, ask why: do you need this information for medical purposes?
- Don't assume that all trans people undergo gender-affirming surgery or hormone treatment.
- In depicting gender in cases, stereotypes are to be avoided. Name the occupations of all adults; all caregivers have equal childcare responsibilities; do not ignore women's and trans men's general health concerns while focusing on their reproductive health.
- Discuss sex- and gender-based variations in disease prevalence even if cases discuss a patient of a specific gender identity, and critically analyze limitations in current prevalence studies that do not take sex/gender diversity into account or consider the intertwined contributions of biological and social determinants (Rioux & Paré, 2022).
- Binary sex and gender assumptions go very deep in our language. The tutorial should be a safe space for discussing and critiquing the language of sex and gender.
- Members of the tutorial group have a diversity of sexual orientations and/or gender identities, as do their friends and family members. Group members might or might not want to share this

information and should not be pressured. Everyone in the group has a right to privacy and to make their own decisions about whether the group is safe, inclusive, and affirming enough to share, and whether they want to educate others.

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Gender and Women's Studies subject guide: https://dal.ca.libguides.com/gender

Thanks to Abbey Ferguson, Executive Director & Health Promotion, Halifax Sexual Health Centre, Carmel Farahbakhsh, Youth Project, Garry Dart, Pride Health, Marc Nicholson, Pediatrics, DMNB, Suzanne Zinck, Transgender Health Team, Psychiatry, NSHA, for reviewing this document and sharing resources.

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Version 2; March 2023 (committee names corrected Dec 2024)