ABSTRACT
Given the increase in pornography use among adolescents over the years, we discuss the impact of its use on sexual health development as well as the role of primary care providers (PCPs) in assessing use and providing sexual health education. While pornography use is often viewed negatively, it is important to develop unbiased understanding of the use in order to provide non-judgmental, adolescent-focused and educational care. As PCPs are often the first point of contact when adolescents experience medical and behavioral health concerns, it is essential for them to be equipped to screen for pornography use effectively, create a confidential and comfortable environment to talk about pornography use and sexuality, and be informed of ways to promote open discussion between youth and parents. In addition to PCP involvement, parental collaboration, knowledge and comfortability with discussing pornography use with their child are powerful tools in understanding and navigating pornography use in this population. This special communication seeks to provide an objective view of adolescents’ pornography use, guidelines for screening of pornography use and ways to facilitate conversations about the use between adolescents and caregivers.

INTRODUCTION
The internet has become an integral part of the modern lives of adolescents. This allows youth to easily access information and topics of interest online, including sexually explicit material or pornography. Pornography is commonly defined as professionally produced or user-generated sexually explicit pictures or videos intended to sexually arouse the viewer.1–3 Increased access to the internet and other online platforms has resulted in a rapid increase in the number of adolescents who encounter and consume pornographic content.1–4 As a result, adolescents’ exposure to pornography has been a great concern for parents, teachers and the general public.1–2 Pornography has the potential to impact adolescent development both negatively and positively. It is a greatly complex media, making it a particular concern for primary care providers (PCPs) and parents as they are often the first point of contact when adolescents experience any issues with well-being, including physical or mental health concerns.5–7 Having an unbiased understanding of the impact of pornography use on adolescent development lays the groundwork for healthcare providers to support adolescents in their sexual development and health. In this special communication, we seek to provide guidelines for medical providers to integrate routine screening and counseling of pornography use as a part of adolescent primary care and offer recommendations for how to facilitate conversations that may arise between youth and parents regarding the use.

PREVALENCE OF PORNOGRAPHY USE IN TEENS
Adolescent pornography use has continuously increased over time and the age of first exposure to sexually explicit materials has also been getting younger.8 The estimates of prevalence rates have varied,2 but nationally representative surveys of adolescents in the USA have found that 68.4% reported exposure to online pornography.9 Another study in the USA found 42% of youth between the ages of 10 and 17 reported viewing online pornography.4 Other prior studies have shown that 19%–37% of teens reported intentional use10–13 while unintentional pornography use in adolescents range from 35% to 66%.4,12 Both intentional and unintentional use of pornography has increased in frequency with age and sexual development.1,4,12 Furthermore, social or environmental changes can also have an effect. Reported pornography use increased even more in the setting of the COVID-19 pandemic, lockdowns and social distancing.15 One of the biggest pornography websites, Pornhub, reported an 11% increase in its viewership in just 1 month from February 2020 to March 2020.14 Gender is also an important factor to account for when considering the prevalence of pornography use, with males more likely to report pornography use.15,16 However, national and international studies have found that although males more often use pornography, it is not uncommon for female adolescents to engage in its use as well.17 A study
found that in a sample of 1000 adolescents, 66% of males and 39% of females had watched online pornography. And, up to 95% of male adolescents and 52% of female adolescents between ages of 16 and 19 in Germany reported having watched movies with pornographic material online.

THE IMPACT OF PORNOGRAPHY ON SEXUAL HEALTH AND WELL-BEING

There is a wide range of negative and positive effects of pornography on adolescent sexual health and development, impacting their sexual attitudes, beliefs and behaviours. Focusing on the negative effects first, studies have found that exposure to pornography may set unrealistic beliefs and attitudes about sex. Adolescents may expect what they observe in pornography to be similar to real-world sexual experiences. It may also influence them to perceive sex as primarily physical and casual, rather than emotional and relational. Moreover, research suggests that the more adolescents use pornography, the more they experience sexual preoccupation and sexually permissive attitudes. These attitudes may include beliefs that women are sex objects rather than relations or partners. And adolescent males, in particular, who had been exposed to sexually violent media, reported more accepting attitudes towards teen dating violence and sexual violence.

Exposure to pornography may also impact sexual behaviours. These behaviours include, more frequent engagement in casual sex, high-risk sexual behaviours such as sex with multiple partners and substance use during sex. Adolescents may also exhibit a higher tendency to have sexual intercourse and experience sexually coercive behaviour. Male adolescents who are exposed to frequent pornographic material may also exhibit higher levels of sexual aggression compared with those with infrequent exposure to pornography.

However, while the effect of pornography on adolescents is often viewed negatively, the empirical understanding of the impact of pornography is actually quite complex. Study findings have been contradictory and inconclusive, frequently laced with methodological challenges and cultural bias. The majority of previous studies were based on correlations, not causations, limiting conclusions that can be drawn from the findings. However, more recently, research has examined some potential positive aspects of pornography. In order to provide the best evidence, research has examined some potential positive aspects of pornography use. The more they experience sexual preoccupation and sexually permissive attitudes, the more adolescents use pornography. In order to provide the best evidence-based counselling to adolescent patients, it is important to recognise positive aspects of pornography use to formulate an objective conclusion of the impact of pornography on adolescent sexual health.

In fact, pornography may aid in adolescents’ sexual development and enhance sexual relationships as well as knowledge. Pornography has been viewed as an educational tool in addition to its use for sexual gratification or as a leisure activity. A study found that when asking individuals how pornography impacted them, respondents stated that it helped with sexual confidence because it introduced them to sexual acts that they would not have explored otherwise. Similarly, pornography allows experimentation with sexual attraction, which can be useful in the sexual identification of gender identity and sexual orientation. Moreover, pornography may support sexual development by teaching individuals about sexual acts through demonstration and increase confidence. Studies suggest that pornography may help inform what sexual partners might enjoy, encouraging greater self-confidence and a more positive sexual identity. Balancing the negative and positive effects of pornography use will help create clarity for adolescents and health professionals.

MOTIVATION FOR PORNOGRAPHY USE

There are different motivational factors driving pornography use, such as mood management, habitual use and fantasy. Pornography may be used as a way of seeking sensation, an impulsivity-related characteristic. These individuals with higher levels of sensation seeking behaviours may report a greater frequency of pornography use and higher risk of developing problematic pornography use.

Exploring the motivation for pornography use may allow PCPs and caregivers to gain insight into adolescents’ psychosocial needs. Common traits in adolescents who have higher rates of pornography use include more advanced pubertal development, minimal caregiver supervision and emotional connection, family conflict, and behavioural problems. Individuals with attachment difficulties may engage in pornography use as a way to seek relational or sexual connectedness and/or comfort without any emotional commitment, reducing any fears of rejection or abandonment. Related to this, another study found that youth may seek pornography to increase their sense of belongingness and decrease loneliness. Lastly, individuals may consume pornography as a way to manage feelings of emotional stress or discomfort. For example, during the COVID-19 lockdowns, individuals may have used pornography as a way to distract themselves from loneliness, distress, boredom or other pandemic-related negative emotions.

THE ROLE OF PRIMARY CARE IN SEXUAL HEALTH EDUCATION

PCPs hold a unique position in being able to identify and assess for behaviours that can impact adolescent psychosocial development. Furthermore, PCPs are able to incorporate various aspects of sexual and reproductive healthcare to provide well-informed guidance to adolescents. In fact, sexuality plays an integral role in the identity and development of adolescents. They may have questions or misunderstandings about issues, such as masturbation, menstruation, sexual fantasies, orgasms and sexual orientation. Not only is it important for clinicians to gather sexual history, it is recommended that PCPs assess the use
of pornography as part of sexual history to determine how its use may be affecting adolescent psychosexual development. However, there continues to be a marked gap between research and clinical practice regarding adolescent pornography use. Sexual health or behaviour is infrequently discussed in adolescent health visits in primary care and even if they do occur, the discussion is often very brief; the average length of sexuality talk in adolescent health maintenance visits was found to be 36 s.

Screening youth for pornography viewing (e.g., frequency of use, content of pornography, motivations for use) should be a routine part of paediatric and adolescent health care. Adolescents see their PCP for a variety of reasons that include routine healthcare maintenance exams, urgent care concerns, and sexual and reproductive health. At each visit organisations, such as the Academy of Pediatrics and The Society of Adolescent Health and Medicine, recommend that part of the visit be conducted with the adolescent alone in efforts to foster a confidential, trusting relationship with their provider. Prior to the confidential portion of the clinical encounter, parents/guardians and adolescents are informed that the information that is shared with the provider will be treated as confidential. Furthermore, any reasons to why confidential will be breeched (i.e., acute suicidality or other safety concerns) are shared with all parties. During this confidential alone time, providers can normalise the discussion around sexual health and how it is part of their routine care for everyone in efforts to reduce feelings of shame and discomfort around discussing pornography use, as well as to further prevent them from seeking unreliable information via the Internet or peers. School-based sexual health education is also limited in scope (e.g., not including porn literacy and amount of time spent), which is not conducive to an environment where adolescents feel safe and comfortable asking questions. However, PCPs can offer guidance in a safe environment to provide accurate information and play a significant role in sex education, especially in settings where there is not a standardised, unbiased curriculum within an educational system. Sexual education provided by PCPs would be more accurate, reliable and safer than online search which is often adolescents’ first step in accessing information about sexual health. Adolescents are often hesitant to seek sexual health services for reasons such as feeling judged and concerns around confidentiality. Therefore, it is important for providers to seek to foster a relationship with adolescent patients, create a confidential and comfortable environment, and be able to inquire about and provide information on sexual health and behaviours.

CLINICAL ASSESSMENT OF PORNOGRAPHY USE
Paediatricians are encouraged to specifically screen for pornography use. In order for clinical interactions with adolescent patients to be effective, providers are encouraged to self-reflect and acknowledge their own biases around pornography and sexual health. Making this discussion part of routine clinical care reduces stigma and can also uncover reasons why certain concerns exist in this age range, such as erectile dysfunction, body image concerns and high-risk sexual behaviours or sexually aggressive behaviours.

The HEADSS (i.e., Home, Education, Activities, Drugs, Sex, Suicide) assessment is a tool that provides a framework for conducting a comprehensive, psychosocial interview. It is widely used in the adolescent healthcare field and provides a structured format to facilitate communication that is confidential, respectful and creates an environment where youth can feel comfortable discussing sensitive topics. It is recommended that this assessment is conducted at minimum yearly at routine health maintenance examinations. Inquiring about sexuality and sexual practices is part of this assessment and can help providers initiate this conversation. For adolescents 12 years of age and older, a discussion of sexual activity (‘S’) or activities in general (‘A’) should include an assessment of pornography viewing as part of their social media use as well as patients’ perception of such material.

Table 1 is adapted from various studies that outlines three points to include in routine visits and guidelines for how to further assess for pornography use when it is endorsed. If viewing is affirmative, it is important to assess the frequency of viewing. Inquiring about specific content matter is important to discuss as it can influence sexual intimacy and skew their view on real-life intimate relationships. If viewing pornography results in health complications, including sleep problems, immune function and sedentary cardiovascular disease, then appropriate referrals should be made for continued evaluation and support. It is also important to consider that adolescents may not be forthcoming with their pornography use at first or there might be other urgent issues that need to be addressed outside of screening for pornography use. That is why it is important to screen and incorporate discussion into routine practice at least on a yearly basis using the HEADSS assessment. Fostering rapport and trust will allow adolescents to feel more comfortable in disclosing these behaviours.

THE ROLE OF PARENTS IN SEXUAL HEALTH EDUCATION
Just as PCPs play a significant role in adolescents’ sexual health, parents are also an integral part and can influence pornography use based on their views and attitudes on sexuality. Many parents are reluctant to initiate a discussion on the topic of sexuality with their child. Parents’ reactions to their child watching porn can include anger, shame, denial, fear and feeling punitive. Normalising this discussion in routine medical visits can help reduce stigma or address parental bias. This discussion can be facilitated by the adolescents’ PCPs, in efforts to foster an open dialogue among family members. This can help break the ice if a parent or child finds this topic awkward.
to discuss. Topics such as privacy issues, risks of viewing, as well as how to responsibly and safely view and interpret pornography content are important to discuss with an adolescent. Adaptations of suggestions for parents on how to facilitate this discussion57 are outlined in box 1.

Research suggests that parents would like their child’s PCP to provide them with guidance and resources on how to have family discussions about pornography.56 However, there is currently a lack of evidence-based guidance that is adolescent-focused, non-judgemental and culturally sensitive.56 There is a pressing need for the development and evaluation of developmentally and culturally appropriate scripts for parent–child communication about pornography.

CONCLUSION
As pornography use continues to rise among adolescents, PCPs are more likely to encounter it in clinical settings, making it necessary for them to play an active role in screening, conducting assessments and providing guidance. Having an unbiased understanding of the impact of and function of pornography use in adolescents is crucial to supporting them through their sexual development. It is critical for adolescents’ sexual health education to equip them with accurate and helpful knowledge regarding pornography and enable them to think critically about consumption. The more we stigmatise pornography, the more we push it underground and the less we will be able to understand its impact on sexual health among adolescents. In this manner, it would be important for future

**Box 1 Recommendations for parents on how to facilitate conversations about pornography use with your child**

1. Educate yourself first. Ask your provider for resources. Explore them.
2. Consider your own emotions and values and what it is important for you to communicate.
3. Be clear and candid and admit when you do not know the answer.
4. Establish a common language for talking about sexuality and create conversational ground rules to foster a non-judgemental atmosphere.
5. Use teachable moments to have conversations related to a variety of topics on a regular basis. (eg. found child watching pornography)

Adaptations of suggestions for talking to parents about adolescents’ sexuality.57

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**Table 1 Provider recommendations on how to initiate screening of pornography use**

<table>
<thead>
<tr>
<th>All routine visits should include52</th>
<th>History of pornography use</th>
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<tbody>
<tr>
<td>► Discussion about sex and sexuality.</td>
<td></td>
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<tr>
<td>► Screening for high-risk sexual behaviour.</td>
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<tr>
<td>► Allowing space for teens to ask questions and gather accurate and safe resources.</td>
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<tr>
<td>If screening is positive for pornography use7</td>
<td>History of pornography use</td>
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<tr>
<td>► Define the specific behaviour</td>
<td></td>
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<tr>
<td>► Assess duration (ie, when did it start), intensity (ie, violent, soft porn) and frequency (ie, how often used)</td>
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<td>► Identify symptoms of current behaviour and how it is interfering in day-to-day functioning.</td>
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<tr>
<td>► Which specific areas of functioning are impacted by pornography (ie, intrapersonal, interpersonal, sleep, academic performance, mood lability and physical health (neck or genital pain).</td>
<td></td>
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<tr>
<td>The function of the behaviour</td>
<td></td>
</tr>
<tr>
<td>► Help patient identify the function of the behaviour</td>
<td></td>
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<tr>
<td>► Some examples would be: avoidance, boredom, negative affect management, emotion regulation and socialisation.</td>
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<tr>
<td>Past mental health/physical health history</td>
<td></td>
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<tr>
<td>► Review all former and current symptoms, diagnoses and treatments</td>
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<tr>
<td>► Research shows that there are higher rates of mental health diagnoses and family challenges with teens engaging in pornography.</td>
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<tr>
<td>Review/assess social and developmental history</td>
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<tr>
<td>► Developmental milestones</td>
<td></td>
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<tr>
<td>► Academic History (learning disorders, 504 Plans).</td>
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<tr>
<td>► Social history (ie, friends, acquaintances, significant others, social anxiety, social isolation, bullying).</td>
<td></td>
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<tr>
<td>► Family history (med and psych hx, involvement, substance abuse, abuse, neglect).</td>
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<tr>
<td>How PCP’s can foster parent–child communication about pornography51</td>
<td></td>
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<tr>
<td>► Encourage early parental education at home about: sexuality contraception and pornography.</td>
<td></td>
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<tr>
<td>► Discuss strategies for promoting healthy and safe use of pornography.</td>
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<tr>
<td>► Make sure that education and discussion is consistent with ‘family’s attitudes, values, beliefs and circumstances’.</td>
<td></td>
</tr>
<tr>
<td>► Discuss strategies for promoting healthy and safe use of pornography.</td>
<td></td>
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<tr>
<td>► Help families use reputable sources of information.</td>
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</table>

PCP, primary care provider.
research to evaluate the effectiveness of adding pornography use screening as part of the HEADSS assessment. It may also be worthwhile for future research to focus on how to promote porn literacy and use pornography as an intervention for promoting sexual health (such as demonstrating safe sexual practices, obtaining consent, exploring and understanding ones sexual or gender identity). It is time to normalise the discussion and make screening part of routine medical care to promote healthy and safe sexual development.

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