SUMMARY OF KEY FINDINGS FROM Y-TRACK

PHASE 6 (2009–2012)

PROTECTING AND EMPOWERING CANADIANS TO IMPROVE THEIR HEALTH

Public Health Agency of Canada
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TO PROMOTE AND PROTECT THE HEALTH OF CANADIANS THROUGH LEADERSHIP, PARTNERSHIP, INNOVATION AND ACTION IN PUBLIC HEALTH.

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Également disponible en français sous le titre :
Résumé des résultats clés du système Y-Track phase 6 (2009 à 2012)

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SUMMARY OF KEY FINDINGS FROM Y-TRACK

PHASE 6 (2009–2012)

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SUMMARY OF KEY FINDINGS FROM Y-TRACK PHASE 6 (2009-2012)

This report provides an overview of findings from Y-Track Phase 6 (2009–2012). The data in this report are shown for the overall sample as well as by sex, allowing for comparisons between male and female participants. Where data in the table contain small cell counts[i], interpret the results with caution.

OVERVIEW OF Y-TRACK

What?

Y-Track (formerly E-SYS, Enhanced Surveillance of Canadian Street Youth) is an enhanced surveillance system that monitors rates of sexually transmitted and blood-borne infections (STBBIs) as well as the associated risk behaviours in the Canadian street youth population. Information is collected through cross-sectional surveys conducted periodically at sentinel sites across Canada. Consenting participants are asked to complete an interviewer-administered questionnaire covering demographics; drug use and injecting behaviours; sexual behaviours; history of testing and diagnosis of the human immunodeficiency virus (HIV) and other STBBIs; self-reported physical and mental status; history of abuse; and health service knowledge, use, and barriers. Survey participants are asked to provide consent for one or more of the following biological tests: HIV, hepatitis C (HCV), herpes simplex virus-1 (HSV-1), herpes simplex virus-2 (HSV-2), hepatitis B (HBV), chlamydia, syphilis, gonorrhea, and human T-lymphotropic virus (HTLV). Y-Track is the only non-school based, national level behavioural and biological surveillance system for this population in Canada. Please refer to Appendix I for details of the testing methods used and the interpretation of test results.

Who?

The target population is youth between 15 and 24 years old who have not lived at home for at least 3 consecutive days in the 6 months preceding the survey; who are able to understand spoken English or French; and who provide informed consent. Participation is voluntary and completely anonymous.

When and Where?

Survey participants are recruited from sentinel sites across Canada. The Y-Track Phase 1 was conducted in 1998 in 3 sites, followed by 5 more cycles of data collection: Phase 2 in 1999 in 7 sites, Phase 3 in 2001 in 6 sites, Phase 4 in 2003 in 7 sites, and Phase 5 in 2005–2006 in 6 sites. The most recent cycle of data collection, Phase 6, was conducted in 2009–2012 in 8 sentinel sites: Vancouver (British Columbia), Edmonton (Alberta), Saskatoon (Saskatchewan), Winnipeg (Manitoba), Toronto (Ontario), Ottawa (Ontario), Montréal (Quebec), Halifax (Nova Scotia) (Figure 1).

[i] The definition of small cell size varies, but it is often defined as a cell count greater than zero but less than three, five, or six, depending on the nature of the data and the source.

Why?

Street-involved youth in Canada are vulnerable to HIV infection and other STBBIs as a result of many factors, including sexual behaviours that increase their risk of exposure to STBBIs, substance use (including injection drug use), and misinformation about or lack of information on HIV transmission. The ongoing monitoring of risk behaviours among street-involved youth who engage in high risk behaviours can serve as an early warning system for the spread of blood-borne infections in Canada. Survey results can also help inform and evaluate existing public health responses to HIV and other STBBIs among street-involved youth in Canada.

FIGURE 1. Y-TRACK PHASE 6 (2009–2012) SENTINEL SITES

KEY FINDINGS

A total of 1425 eligible participants were recruited across all sentinel sites during Y-Track Phase 6. Eligible participants who were transgender (n=14) or whose biological sex was not recorded (n=4) were excluded from the analyses as small numbers prevent meaningful interpretation. Data for the remaining 1407 participants were presented in this report.

TABLE 1. DEMOGRAPHIC CHARACTERISTICS OF Y-TRACK PHASE 6 PARTICIPANTS

DEMOGRAPHIC CHARACTERISTICS	ALL PARTICIPANTS % (n)	MALE PARTICIPANTS % (n)	FEMALE PARTICIPANTS % (n)	P-VALUE
Age in years (n=1407)				
15–19	45.9 (646)	40.2 (348)	55.0 (298)	<0.001
20–24	54.1 (761)	59.8 (517)	45.0 (244)	
Sexual orientation (n=1403)				
Heterosexual or straight	75.1 (1053)	86.1 (742)	57.5 (311)	
Homosexual	3.0 (42)	2.7 (23)	3.5 (19)	<0.001
Bisexual	18.1 (254)	9.0 (78)	32.5 (176)	
Other sexual orientation[a]	3.8 (54)	2.2 (19)	6.5 (35)	
Country of birth (n=1397)				
Canada	92.8 (1296)	92.3 (791)	93.5 (505)	0.446
Outside Canada, HIV-endemic country[b]	1.9 (26)	2.2 (19)	1.3 (7)	
Outside Canada, non-endemic country[c]	5.4 (75)	5.5 (47)	5.2 (28)	
Self-reported ethnicity (n=1398)				
Aboriginal	34.2 (478)	32.8 (282)	36.4 (196)	
Black	5.1 (71)	5.7 (49)	4.1 (22)	0.141
Caucasian	46.2 (646)	47.8 (411)	43.6 (235)	
Other ethnicity[d]	14.5 (203)	13.6 (117)	16.0 (86)	
Level of education (n=1397)				
Completed some high school or less	75.0 (1048)	73.8 (633)	77.0 (415)	0.360
Completed high school	20.5 (286)	21.7 (186)	18.6 (100)	
Completed more than high school	4.5 (63)	4.5 (39)	4.5 (24)	
Kicked out of school permanently[e] (n=1400)	42.2 (591)	49.7 (428)	30.2 (163)	<0.001
Main source of income (n=1372)				
Government and/or insurance	40.2 (552)	35.2 (296)	48.1 (256)	
Work, on a regular basis	19.8 (272)	24.8 (208)	12.0 (64)	
Family or friends	12.9 (177)	9.8 (82)	17.9 (95)	<0.001
Sex work	3.1 (43)	1.9 (16)	5.1 (27)	
Selling drugs	9.1 (125)	11.7 (98)	5.1 (27)	
Street-based activities[f]	8.2 (112)	8.6 (72)	7.5 (40)	
Other source of income[g]	6.6 (91)	8.1 (68)	4.3 (23)	

Location where the participant slept most often in the 3 months prior to the interview (n=1404)				
Own room or apartment or house	19.2 (269)	18.1 (156)	20.9 (113)	<0.001
Caregiver's place or group home[h]	18.2 (255)	16.5 (142)	20.9 (113)	
Friend or partner's place	18.9 (266)	18.9 (163)	19.0 (103)	
Shelter or hostel	22.0 (309)	26.1 (225)	15.5 (84)	
Public places[i]	10.8 (151)	10.2 (88)	11.6 (63)	
Different place almost every night	6.2 (87)	5.0 (43)	8.1 (44)	
Other sleep location[j]	4.8 (67)	5.3 (46)	3.9 (21)	
Lived in foster care in the 12 months prior to the interview (n=1406)	7.0 (99)	6.0 (52)	8.7 (47)	0.058
History of incarceration[k] (n=1397)	68.5 (957)	78.2 (673)	53.0 (284)	<0.001

Abbreviations: HIV, human immunodeficiency virus.

Note: Percentages may not sum to 100.0 due to rounding. Where the data in the table contain small cell counts, interpret the results with caution. P-values are based on the chi square (χ^2) statistic.

[a] *Other sexual orientation* included *Queer, Questioning/don't know/confused*, participants who reported more than one response for sexual orientation, and other unclassifiable responses.

[b] *HIV-endemic countries* are defined by the Public Health Agency of Canada as those countries that have an adult (ages 15–49 years) prevalence of HIV that is 1.0% or greater and one of the following: 50% or more of HIV cases attributed to heterosexual transmission; a male to female ratio of 2:1 or less among prevalent infections; or HIV prevalence greater than or equal to 2% among women receiving prenatal care.

[c] *Non-endemic country* refers to countries not considered to be HIV-endemic by the Public Health Agency of Canada.

[d] *Other ethnicity* included frequencies of less than 2% (i.e., Latin American and Asian), participants who reported more than one ethnicity excluding Aboriginal, and other unclassifiable responses.

[e] *Kicked out of school permanently* refers to participants who reported having been expelled (i.e., asked to leave school permanently).

[f] *Street-based activities* included busking, squeegeeing, panhandling, collecting bottles, and other similar responses.

[g] *Other source of income* included no income, other illicit activities, and other unclassifiable responses.

[h] *Caregiver's place or group home* included parents' place, other relatives' place, and foster parents' place.

[i] *Public places* included streets, parks, stairwells, washrooms, and other similar responses.

[j] *Other sleep location* included hotel or motel room, rooming or boarding house, detox or recovery house, transition or halfway house, squats, detention facility, hospital, church, drop-in centre, and unclassifiable responses.

[k] *History of incarceration* included ever having been in a detention facility, youth detention centre, prison or jail.

The demographic characteristics of Y-Track Phase 6 participants were similar to those of previous Y-Track phases. More of the participants were male (61.5%), although the proportion varied by age group: at 20 to 24 years of age, 59.8% of the participants were male and 45.0% were female; conversely, at 15 to 19 years of age, 55.0% were female and 40.2% were male.

Three-quarters of Y-Track Phase 6 participants self-reported their sexual orientation as heterosexual or straight (75.1%). A higher proportion of female participants self-identified as homosexual (3.5% versus 2.7% for male participants), bisexual (32.5% versus 9.0%), or another sexual orientation (i.e., Queer, Questioning, etc.; 6.5% versus 2.2%).

The majority of participants reported Canada as their country of birth (92.8%). Only 5.4% reported being born in a non-endemic country outside Canada and 1.9% from an HIV-endemic country. No statistically significant differences were found between male and female participants.

The largest proportion of participants self-identified as Caucasian (46.2%), but just over one-third (34.2%) self-identified as Aboriginal (i.e., First Nations, Métis, or Inuit), a rate almost 8 times higher than the proportion of Aboriginal people in the general Canadian population in 2011 (4.3%).[1] Only 5.1% self-identified as Black and 14.5% as other ethnicities. Male and female participants did not differ significantly in terms of distribution of self-reported ethnicities.

Three-quarters of participants reported not completing high school (75.0%) and over one-third (42.2%) reported being expelled from school. While male and female participants did not differ significantly in reported level of education attained, a higher proportion of male participants reported being permanently expelled (49.7% versus 30.2% for female participants).

Over one-third (40.2%) of participants reported that their main income source was from government and/or insurance sources. A higher proportion of female participants reported government and/or insurance sources as their main income source (48.1% versus 35.2% for male participants) or family or friends (17.9% versus 9.8%) or sex work (5.1% versus 1.9%), while a higher proportion of male participants reported regular work (24.8% versus 12.0% for female participants) as their main income source.

Nearly one-quarter (22.0%) of participants, and particularly male participants (26.1% versus 15.5% for female participants), reported sleeping most often in a shelter or hostel in the 3 months prior to the interview. The other most common locations included their own room or apartment or house (19.2%), a friend or partner's place (18.9%), and a caregiver's place or a group home (18.2%). A small proportion (7.0%) (with similar proportions of male and female participants) reported living in foster care in the 12 months prior to the interview. Just over two-thirds (68.5%) reported a history of incarceration (i.e., detention facility, youth detention centre, prison or jail), with a higher proportion of male participants reporting a history of incarceration (78.2% versus 53.0% for female participants).

TABLE 2. PREVALENCE OF HIV, HEPATITIS C, AND OTHER STBBIs AMONG PARTICIPANTS WHO PROVIDED A BIOLOGICAL SAMPLE OF SUFFICIENT QUANTITY FOR TESTING

INFECTION OR EXPOSURE INDICATOR	ALL PARTICIPANTS % (n)	MALE PARTICIPANTS % (n)	FEMALE PARTICIPANTS % (n)	P-VALUE
HIV infection (n=1076)				
HIV seropositive	0.9 (10)	0.9 (6)	1.0 (4)	1.0[a]
HIV seronegative	99.1 (1066)	99.1 (668)	99.0 (398)	
Lifetime exposure to hepatitis C (n=1076)				
Hepatitis C seropositive	5.6 (60)	4.7 (32)	7.0 (28)	
Hepatitis C seronegative	94.1 (1013)	95.1 (641)	92.5 (372)	0.174
Indeterminate	0.3 (3)	0.1 (1)	0.5 (2)	
HSV-1 exposure (n=1076)				
HSV-1 seropositive	53.3 (574)	49.9 (336)	59.2 (238)	
HSV-1 seronegative	46.5 (500)	49.9 (336)	40.8 (164)	0.008
Indeterminate	0.2 (2)	0.3 (2)	0.0 (0)	
HSV-2 exposure (n=1076)				
HSV-2 seropositive	13.4 (144)	7.6 (51)	23.1 (93)	
HSV-2 seronegative	86.3 (929)	92.1 (621)	76.6 (308)	<0.001
Indeterminate	0.3 (3)	0.3 (2)	0.2 (1)	

Hepatitis B infection status (n=1114)				
Susceptible	30.9 (344)	33.7 (237)	26.1 (107)	0.084
Immunity due to natural infection with hepatitis B	0.6 (7)	0.7 (5)	0.5 (2)	
Vaccine-mediated immunity to hepatitis B	62.3 (694)	59.4 (418)	67.3 (276)	
Currently infected (acute or chronic)	0.1 (1)	0.1 (1)	0.0 (0)	
Uninterpretable lab result	6.1 (68)	6.1 (43)	6.1 (25)	
Chlamydia infection at time of test (n=1237)				
Positive	8.7 (107)	7.5 (57)	10.5 (50)	<0.001
Negative	90.2 (1116)	92.4 (704)	86.7 (412)	
Indeterminate	1.1 (14)	0.1 (1)	2.7 (13)	
Lifetime exposure to syphilis (n=1105)				
Positive	0.8 (9)	0.7 (5)	1.0 (4)	0.800[a]
Negative	99.2 (1096)	99.3 (695)	99.0 (401)	
Gonorrhea infection at time of test (n=1235)				
Positive	1.0 (12)	0.7 (5)	1.5 (7)	<0.001
Negative	98.0 (1210)	99.2 (756)	96.0 (454)	
Indeterminate	1.1 (13)	0.1 (1)	2.5 (12)	

Abbreviations: HIV, human immunodeficiency virus; HSV-1, herpes simplex virus-1; HSV-2, herpes simplex virus-2; STBBIs, sexually transmitted and blood-borne infections.

Note: Percentages may not sum to 100.0 due to rounding. Where the data in the table contain small cell counts, interpret the results with caution. P-values are based on the chi square (χ^2) statistic unless specified otherwise.

See Appendix I for details on testing methods and interpretation of test results.

[a] P-value based on the Fisher Exact test.

HIV

Of the 1076 participants who provided a blood sample sufficiently large to be tested for HIV, 10 (0.9%) were found to be HIV positive. HIV seroprevalence was similar in male (0.9%) and in female (1.0%) participants. These proportions are higher than the estimated HIV prevalence rate in Canada in 2011 (208 per 100 000 population, or 0.208%).[2]

Hepatitis C

A small proportion of participants (5.6%) were seropositive for hepatitis C. This is higher than the 2010[ii] national reported rate[iii] of hepatitis C infection among youth aged 15 to 24 (17.9 per 100 000 population, or 0.018%).[3]

Although a smaller proportion of male participants were seropositive for hepatitis C (4.7% versus 7.0% for female participants), this difference was not statistically significant. This is similar to

[ii] 2010 national rates for all youth were used to compare the Y-Track Phase 6 results as 2010 was the midpoint of the 2009 to 2012 Phase 6 data collection period.

[iii] The comparison between 2010 national reported rates for ages 15-24 and the Y-track results should be interpreted with caution. National reported rates only represent a portion of all the cases in the Canadian population and may underestimate actual national rates. Cases may not be reported for the following reasons: not all people will seek medical attention, reporting of diagnosed cases is not complete, diagnostic tests may result in a false negative, interpretation of the characteristics of a disease may vary, and not all provinces or territories are able to report on all diseases in every year.

the 2010 national reported rates[iii] of hepatitis C for youth aged 15 to 24: rates for males were slightly lower than for females (16.4 per 100 000 population or 0.016% versus 19.4 per 100 000 population or 0.019%).[3]

Herpes simplex virus-1 and herpes simplex virus-2

Over half (53.3%) of all participants tested positive for herpes simplex virus-1 (HSV-1) infection, with a higher proportion of female participants HSV-1 seropositive (59.2% versus 49.9% for male participants). Overall, 13.4% of the participants were positive for herpes simplex virus-2 (HSV-2), with a higher proportion of female participants testing positive (23.1% versus 7.6% for male participants). Population-based, national-level data on genital HSV infections in Canada are not available[4]; however, the proportions of Y-Track Phase 6 participants seropositive for HSV-1 and HSV-2 are similar to the results of previous Y-Track phases.[5]

Hepatitis B

Just under two-thirds (62.3%) of participants had vaccine-mediated immunity to hepatitis B, and just under one-third (30.9%) were susceptible to hepatitis B. Only 0.1% participants had a current hepatitis B infection (acute or chronic) and only 0.6% had a past infection. These proportions are higher than the 2010 national reported rates[iii] for youth aged 15 to 24 (5.7 per 100 000 population or 0.006%).[3] While the differences between male and female Y-Track Phase 6 participants were not significant, the 2010 national reported rates[iii] of infection were higher for female than male youth aged 15 to 24 (6.6 per 100 000 population or 0.007% versus 4.8 per 100 000 population or 0.005%).[3]

Chlamydia

Overall, 8.7% of participants tested positive for chlamydia, higher than the 2010 national rates[iii] of infection in youth aged 15 to 24 (1300.3 per 100 000 population or 1.3%). A higher proportion of female Y-Track Phase 6 participants were found to have a chlamydia infection at the time of testing (10.5% versus 7.5% for male participants). These findings are striking as these rates are nearly 6 times higher than the 2010 national reported rates[iii] of chlamydia infection among female youth (1912.4 per 100 000 population or 1.912%) and nearly 11 times higher than the same rate among male youth (710.6 per 100 000 population or 0.711%).[3]

Syphilis

Syphilis seropositivity at the time of testing (i.e., a current syphilis infection, a previously treated syphilis infection, or a previously untreated syphilis infection) was 0.8% among participants who provided a biological sample large enough to test (n=1106). This proportion is 133 times higher than the 2010 reported national rate[iii] for syphilis infection in youth aged 15 to 24 (6.4 per 100 000 population or 0.006%).[3] Infection with syphilis was slightly higher among female Y-Track Phase 6 participants (1.0% versus 0.7% for male participants); however, this difference was not statistically significant. The 2010 national reported syphilis infection rates[iii] were 3 times

[iii] The comparison between 2010 national reported rates for ages 15-24 and the Y-track results should be interpreted with caution. National reported rates only represent a portion of all the cases in the Canadian population and may underestimate actual national rates. Cases may not be reported for the following reasons: not all people will seek medical attention, reporting of diagnosed cases is not complete, diagnostic tests may result in a false negative, interpretation of the characteristics of a disease may vary, and not all provinces or territories are able to report on all diseases in every year.

higher among male youth aged 15 to 24 (9.7 per 100 000 population or 0.01%) than among female youth the same age (3.0 per 100 000 population or 0.003%).[3]

Gonorrhea

Of the 1235 participants who provided a biological sample large enough to test, 1.0% tested positive for gonorrhea at the time of testing. This proportion is 8 times higher than the 2010 reported national rates[iii] for youth aged 15 to 24 (121.6 per 100 000 population, or 0.122%).[3] A higher proportion of female Y-Track Phase 6 participants tested positive for gonorrhea (1.5% versus 0.7% for male participants). These proportions are 10 times higher than the 2010 national reported rate[iii] for gonorrhea infection among female youth aged 15 to 24 (142.8 per 100 000 population or 0.143%) and 7 times higher among male youth the same age (101.2 per 100 000 population or 0.101%).[3]

Human T-lymphotropic virus

None of the participants tested (n=1074) were positive for human T-lymphotropic virus (data not shown in Table 2).

TABLE 3. ALCOHOL AND OTHER DRUG USE AND RELATED RISK BEHAVIOURS

ALCOHOL OR DRUG USE BEHAVIOUR	ALL PARTICIPANTS % (n)	MALE PARTICIPANTS % (n)	FEMALE PARTICIPANTS % (n)	P-VALUE
Frequency of alcohol consumption in the 3 months prior to the interview (of participants who reported drinking in the 12 months prior to the interview, n=1289)				
Never in past 3 months	7.1 (91)	5.7 (46)	9.2 (45)	
Up to 3 times a month	41.4 (533)	41.9 (336)	40.4 (197)	0.092
Up to 6 times a week	37.9 (489)	37.8 (303)	38.1 (186)	
Daily	13.7 (176)	14.5 (116)	12.3 (60)	
Frequency of binge drinking[a] in the 3 months prior to the interview (of participants who reported binge drinking in the 12 months prior to the interview, n=854)				
Never in past 3 months	11.6 (99)	10.8 (57)	12.9 (42)	
Up to 3 times a month	45.6 (389)	45.6 (241)	45.5 (148)	0.579
Up to 6 times a week	34.1 (291)	34.0 (180)	34.2 (111)	
Daily	8.8 (75)	9.6 (51)	7.4 (24)	

[iii] The comparison between 2010 national reported rates for ages 15-24 and the Y-track results should be interpreted with caution. National reported rates only represent a portion of all the cases in the Canadian population and may underestimate actual national rates. Cases may not be reported for the following reasons: not all people will seek medical attention, reporting of diagnosed cases is not complete, diagnostic tests may result in a false negative, interpretation of the characteristics of a disease may vary, and not all provinces or territories are able to report on all diseases in every year.

Frequency of cigarette smoking at the time of the interview (n=1399)				
Does not currently smoke	14.1 (197)	12.5 (108)	16.6 (89)	0.039
Occasionally smokes	10.7 (150)	11.8 (102)	8.9 (48)	
Smokes every day	75.2 (1052)	75.6 (652)	74.5 (400)	
Proportion who used any drugs by non-injection route in the 12 months prior to the interview (of participants who reported ever using non-injection drugs, n=1348)	96.7 (1304)	98.0 (813)	95.0 (491)	0.002
Drugs used most often by non-injection route in the 12 months prior to the interview (of participants who reported using non-injection drugs in the 12 months prior to the interview, n=1284)				
Marijuana	72.7 (933)	78.2 (626)	63.6 (307)	<0.001
Cocaine	10.7 (138)	7.6 (61)	15.9 (77)	
MDMA (Ecstasy)	4.8 (61)	3.6 (29)	6.6 (32)	
Amphetamines	2.4 (31)	2.5 (20)	2.3 (11)	
Hallucinogens	2.3 (29)	2.6 (21)	1.7 (8)	
Other[b]	7.2 (92)	5.5 (44)	9.9 (48)	

Note: Percentages may not sum to 100.0 due to rounding. Where the data in the table contain small cell counts, interpret the results with caution. P-values are based on chi square (χ^2) statistic.

[a] *Binge drinking* was defined as drinking to get "smashed" or drunk for a long period of time.

[b] *Other* includes drugs in the following drug classes in frequencies of less than 2: stimulants (methamphetamines), opioid analgesics (heroin), anabolic steroids, alcohol and other solvents or inhalants (gasoline, glue), barbiturates, and other unclassifiable responses.

Street-involved youth have higher rates of substance use compared to the general youth population, which is an ongoing public health concern.[6] Use of alcohol and/or drugs has been shown to affect sexual behaviour by increasing risk taking (e.g., inconsistent condom use, multiple sex partners) and overall vulnerability to STBBIs.[7]

Alcohol

Of the 1289 participants who reported consuming alcohol in the 12 months prior to the interview, 41.4% reported drinking up to 3 times per week, 37.9% reported drinking up to 6 times a week, and 13.7% reported drinking every day in the 3 months prior to the interview. A small proportion reported no alcohol consumption during this period (7.1%). No statistically significant differences were noted between male and female participants. In comparison, the 2010 Canadian Alcohol and Drug Use Monitoring Survey (CADUMS, n=13 615) found that 71.5% of the Canadian youth aged 15 to 24 who participated in the survey reported alcohol use in the previous year.[8]

Of the 854 participants who reported binge drinking in the 12 months prior to the interview, 45.6% reported binge drinking up to 3 times per week, 34.1% reported binge drinking up to 6 times a week, and 8.8% reported binge drinking every day in the 3 months prior to the interview. A small proportion reported no binge drinking during this period (11.6%). Male and female participants did not differ significantly in terms of reported frequency of binge

drinking. The proportion of Y-Track participants who indicated binge drinking in the year prior to the interview (60.6%) was over 6 times the proportion of same age youth who reported heavy drinking[iv] in the 2010 CADUMS.[8]

Cigarettes

Over three-quarters of participants (85.9%) reported smoking cigarettes at the time of the interview. Of these, 10.7% reported smoking occasionally and 75.2% reported smoking every day, with male and female participants not differing significantly in terms of smoking frequency. In comparison, the general youth population aged 15 to 24 in Canada has a smoking prevalence of 17% as reported in the 2010 Canadian Tobacco Use Monitoring Survey (CTUMS).[9]

Non-injection drugs

The majority of participants (96.7%) indicated they had used drugs by non-injection routes in the 12 months prior to the interview, with marijuana (72.7%) and cocaine (10.7%) being the most commonly used drugs. Smaller proportions of other drugs used included MDMA (Ecstasy) (4.8%), amphetamines (2.4%), hallucinogens (2.3%), and other drug classes (7.2%).

The type of drug used predominantly differed between male and female participants. A larger proportion of male participants reported marijuana as the most commonly used drug (78.2% versus 63.6% for female participants), while a larger proportion of female participants reported using cocaine (15.9% versus 7.6% for male participants).

TABLE 4. INJECTION DRUG USE AND INJECTING RELATED RISK BEHAVIOURS

INJECTION DRUG USE BEHAVIOUR	ALL PARTICIPANTS % (n)	MALE PARTICIPANTS % (n)	FEMALE PARTICIPANTS % (n)	P-VALUE
Proportion who had ever injected drugs (n=1403)	22.0 (308)	21.9 (189)	22.1 (119)	0.929
Proportion who injected drugs in the 12 months prior to the interview (of participants who injected more than once in their lifetime, n=240)[a]	78.8 (189)	79.3 (119)	77.8 (70)	0.776
Drugs most often injected in the 12 months prior to the interview (of participants who injected more than once in the 12 months prior to the interview, n=181)[a]				
Heroin	24.9 (45)	24.1 (27)	26.1 (18)	0.371
Cocaine	18.2 (33)	16.1 (18)	21.7 (15)	
Morphine	18.2 (33)	15.2 (17)	23.2 (16)	
Methamphetamines	13.8 (25)	17.0 (19)	8.7 (6)	
Dilaudid	12.7 (23)	14.3 (16)	10.1 (7)	
Other[b]	12.2 (22)	13.4 (15)	10.1 (7)	

[iv] CADUMS defines heavy frequent drinker as a person who drinks one or more times per week on average in a year and usually consumes 5 or more drinks on each drinking occasion.

Proportion who injected with used needles and/or syringes (of participants who had injected drugs in the 12 months prior to the interview) (n=247)	32.8 (81)	25.8 (39)	43.8 (42)	0.003
Proportion who had ever injected with other used injection equipment[c] (of participants who had injected drugs in the 12 months prior to the interview, n=240)	42.1 (101)	38.4 (56)	47.9 (45)	0.145
Proportion who used sterile needles and/or syringes in the 3 months prior to the interview (of participants who had injected drugs in the 3 months prior to the interview, n=155)				
Never	8.4 (13)	7.2 (7)	10.3 (6)	0.646
Less than 50% of the time	9.0 (14)	7.2 (7)	12.1 (7)	
More than 50% of the time	20.6 (32)	21.6 (21)	19.0 (11)	
All of the time	61.9 (96)	63.9 (62)	58.6 (34)	
Proportion who had ever been tattooed (n=1407)				
By a professional	21.5 (303)	18.4 (159)	26.6 (144)	<0.001
By a non-professional	26.4 (371)	24.9 (215)	28.8 (156)	
Never tattooed	52.1 (733)	56.8 (491)	44.6 (242)	
Proportion who had ever been pierced (n=1407)				
By a professional	51.5 (725)	37.3 (323)	74.2 (402)	<0.001
By a non-professional	25.6 (360)	27.9 (241)	22.0 (119)	
Never pierced	22.9 (322)	34.8 (301)	3.9 (21)	

Note: Percentages may not sum to 100.0 due to rounding. Where the data in the table contain small cell counts, interpret the results with caution. P-values are based on chi square (χ^2) statistic.

[a] The denominator counts for the indicators measured over the 12 months prior to the interview varied (i.e., the proportion who injected drugs, most commonly reported drugs used, reuse of used needles and/or syringes or equipment). This was due to different inclusion and exclusion criteria for the respective survey questions.

[b] *Other* includes main response categories with frequencies less than 10% and text responses to "Other Specify" and comprises drugs from the following drug classes: stimulants (methylphenidate), hallucinogens (phencyclidine, ketamine, MDMA), anabolic steroids, opioid analgesics (morphine), benzodiazepines (clonazepam), and other unclassifiable responses.

[c] *Other used injection equipment* included water, filters, swabs, and cookers.

Injection drug use was reported by just under one-quarter of all participants (22.0%). In comparison, less than 2% of the Canadian general youth population 15 years of age or older injected drugs.[10,11] Of the participants who reported injecting more than once in their lifetime, over three-quarters (78.8%) reported they had injected drugs in the 12 months prior to the interview. The participants who reported injecting drugs more than once in the 12 months prior to the interview most commonly injected heroin (24.9%), cocaine (18.2%), and morphine (18.2%). There were no statistically significant differences between female and male participants in terms of type of drugs injected.

Of the participants who had injected drugs at least once in the 12 months prior to the interview, 32.8% reported injecting with used needles and/or syringes and 42.1% reported injecting with other used injection equipment (i.e., water, filters, swabs, and cookers). A larger proportion of female participants reported injecting drugs with used needles and/or syringes (43.8% versus 25.8% for male participants), while female and male participants did not differ significantly in reporting injecting with other used injection equipment.

Of the 155 participants who reported injecting drugs in the 3 months prior to the interview, 61.9% reported always using a sterile needle and 20.6% reported using a sterile needle more than 50% of the time. Small proportions reported using a sterile needle less than 50% of the time (9.0%) or never using a sterile needle (8.4%). Female and male participants did not differ significantly in reporting sterile needle and/or syringe use.

Getting tattooed by a non-professional was reported by 26.4% of all participants compared to 21.5% getting tattooed by a professional. A higher proportion of female participants reported getting tattooed by a non-professional (28.8% versus 24.9% for male participants). Getting pierced by a non-professional was reported by 25.6% of all participants compared to 51.5% getting pierced by a professional. A higher proportion of male participants reported getting pierced by a non-professional (27.9% versus 22.0% for female participants).

TABLE 5. SEXUAL RISK BEHAVIOURS

SEXUAL BEHAVIOURS	ALL PARTICIPANTS % (n)	MALE PARTICIPANTS % (n)	FEMALE PARTICIPANTS % (n)	P-VALUE
Perceived risk of acquiring an STBBI (n=1362)				
No risk	20.0 (273)	18.4 (155)	22.6 (118)	
Low risk	45.2 (615)	47.1 (396)	42.0 (219)	0.191
Medium risk	26.9 (367)	26.6 (224)	27.4 (143)	
High risk	7.9 (107)	7.8 (66)	7.9 (41)	
Lifetime number of sex partners (of participants who had ever had sex, n=1322)				
One	3.4 (45)	3.2 (26)	3.7 (19)	0.655
Two or more	96.6 (1277)	96.8 (780)	96.3 (497)	
Number of sex partners in the 3 months prior to the interview (of participants who had ever had sex, n=1134)				
One	42.3 (480)	38.7 (259)	47.6 (221)	0.003
Two or more	57.7 (654)	61.3 (411)	52.4 (243)	
Age at first vaginal sex (of participants who had ever had vaginal sex, n=1277)				
12 years or under	19.3 (247)	21.3 (165)	16.4 (82)	
13 to 15 years	49.3 (629)	47.0 (365)	52.7 (264)	0.029
16 to 18 years	28.7 (367)	29.6 (230)	27.3 (137)	
19 years or older	2.7 (34)	2.1 (16)	3.6 (18)	

Proportion who reported condom[a] or dental dam use at last oral sex (of participants who reported ever having oral sex, n=1210)	21.0 (254)	19.9 (148)	22.7 (106)	0.248
Proportion who reported condom[a] use at last vaginal sex (of participants who reported ever having vaginal sex, n=1309)	51.0 (668)	53.4 (427)	47.3 (241)	0.029
Proportion who reported condom[a] use at last anal sex (of participants who reported ever having anal sex, n=606)	56.8 (344)	59.2 (229)	52.5 (115)	0.112
Frequency of condom use during any type of sex in the 3 months prior to the interview (of participants who reported ever having sex, n=1175)				
Never used a condom	29.4 (345)	26.8 (187)	33.1 (158)	0.002
Used a condom less than 50% of the time	24.1 (283)	23.8 (166)	24.5 (117)	
Used a condom 50%–99% of the time	25.6 (301)	24.9 (174)	26.6 (127)	
Used a condom 100% of the time	20.9 (246)	24.5 (171)	15.7 (75)	
Proportion who were drunk and/or high during sex in the 3 months prior to the interview (n=1179)	83.7 (987)	85.8 (603)	80.7 (384)	0.020

Abbreviations: STBBI, sexually transmitted and blood-borne infection.

Note: Percentages may not sum to 100.0 due to rounding. Where the data in the table contain small cell counts, interpret the results with caution. P-values are based on chi square (χ^2) statistic.

[a] This includes female condoms.

Self-perceived risk of an STBBI

Conditions of poverty, violence, and abuse often persist on the streets, leading street-involved youth to engage in negative coping mechanisms and risk behaviours (e.g., substance use, inconsistent condom use) that make them more vulnerable to an STBBI.[12] Of all survey participants, 20.0% perceived themselves as having no risk of acquiring an STBBI, 45.2% perceived themselves at low risk, 26.9% perceived themselves at medium risk, and only 7.9% perceived themselves to be at high risk of acquiring an STBBI. No statistically significant differences were found between female and male participants.

Number of sexual partners

Of the participants who reported ever having sex, the majority (96.6%) reported having two or more sexual partners in their lifetime; male and female participants did not differ significantly in reporting numbers of sexual partners.

Of the participants who reported having sex in the three months prior to the interview, 57.7% reported two or more sexual partners. A higher proportion of male participants reporting two or more sexual partners (61.3% versus 52.4% for female participants).

Age at first vaginal sex

Half of the participants (49.3%) indicated they were between 13 and 15 years old the first time they engaged in vaginal sex; 19.3% were 12 years or younger, 28.7% were 16 to 18 years of age, and 2.7% were 19 years or older. Of the 19.3% who reported being 12 years of age or

younger the first time they engaged in vaginal sex, 21.3% were male and 16.4% were female. A significant difference was found between male and female participants across age groupings.

Condom use during vaginal sex

Of the participants who reported ever having vaginal sex, 51.0% reported using a condom the last time they had vaginal sex, with a significant difference in use between male and female participants (53.4% versus 47.3%).

Condom use during oral sex

Of the participants who reported ever having oral sex, 21.0% reported using a condom or dental dam the last time they had oral sex, with no significant difference in use between male and female participants (19.9% versus 22.7%).

Condom use during anal sex

Of the participants who reported ever having anal sex, 56.8% reported using a condom the last time they had anal sex, with no significant difference in use between male and female participants (59.2% versus 52.5%).

Condom use during any type of sex

Of the participants who reported ever having sex, 29.4% reported never using a condom, 24.1% used a condom less than 50% of the time, 25.6% used a condom 50% to 99% of the time, and 20.9% used a condom 100% of the time.

Sex under the influence of alcohol or drugs

Of the participants who had sex in the 3 months prior to the interview, 83.7% reported being drunk and/or high during sex. A significantly higher proportion of male participants reported being drunk and/or high during sex (85.8% versus 80.7% for female participants).

TABLE 6. SELF-REPORTED TESTING AND DIAGNOSIS FOR HIV AND OTHER STBBIs

SELF-REPORTED TESTING AND DIAGNOSIS	ALL PARTICIPANTS % (n)	MALE PARTICIPANTS % (n)	FEMALE PARTICIPANTS % (n)	P-VALUE
HIV				
Proportion who have been tested for HIV (n=1390)	66.0 (917)	62.6 (534)	71.3 (383)	0.001
Proportion who reported previous diagnosis with an HIV infection[a] (n=1398)	1.0 (14)	0.6 (5)[b]	1.7 (9)[b]	0.046
Hepatitis C				
Proportion who have been tested for hepatitis C (n=1390)	55.3 (769)	52.9 (451)	59.2 (318)	0.021
Proportion who reported previous diagnosis with hepatitis C[c] (n=1397)	4.5 (63)	3.3 (28)	6.5 (35)	0.004

Hepatitis B				
Proportion who have been tested for hepatitis B (n=1390)	43.6 (606)	41.0 (350)	47.7 (256)	0.015
Proportion who reported previous diagnosis with hepatitis B[d] (n=1399)	0.8 (11)	0.5 (4)	1.3 (7)	0.118[e]
Self-reported testing for STIs				
Proportion who have been tested for any STI (n=1390)	65.8 (914)	59.2 (505)	76.2 (409)	<.001
Among those who have been tested for an STI (n=914)				
Proportion who have been tested for chlamydia (n=904)	95.9 (867)	94.8 (473)	97.3 (394)	0.060
Proportion who have been tested for gonorrhea (n=904)	96.1 (869)	94.8 (473)	97.8 (396)	0.021
Proportion who have been tested for syphilis (n=903)	74.2 (670)	75.6 (377)	72.5 (293)	0.301
Proportion who reported previous diagnosis with chlamydia[f] (n=912)	28.2 (257)	21.2 (107)	36.9 (150)	<0.001
Proportion who reported previous diagnosis with gonorrhea[g] (n=909)	11.1 (101)	9.3 (47)	13.3 (54)	0.059
Proportion who reported previous diagnosis with syphilis[h] (n=912)	1.6 (15)	1.6 (8)	1.7 (7)	0.873

Abbreviations: HIV, human immunodeficiency virus; STIs, sexually transmitted infections

Note: Percentages may not sum to 100.0 due to rounding. Where the data in the table contain small cell counts, interpret the results with caution. P-values are based on chi square (χ^2) statistic unless otherwise indicated.

[a] Defined as ever being told by a health professional (e.g., doctor or nurse) that you have HIV.

[b] The proportion of participants who reported they had been previously diagnosed with an HIV infection is higher than the proportion of HIV-seropositive participants. This discrepancy is a result of four participants who reported having been previously diagnosed with HIV, but did not provide consent for testing at the time of the interview.

[c] Defined as ever being told by a health professional (e.g., doctor or nurse) that you have hepatitis C.

[d] Defined as ever being told by a health professional (e.g., doctor or nurse) that you have hepatitis B.

[e] P-value based on the Fisher Exact test.

[f] Defined as ever being told by a health professional (e.g., doctor or nurse) that you have chlamydia.

[g] Defined as ever being told by a health professional (e.g., doctor or nurse) that you have gonorrhea.

[h] Defined as ever being told by a health professional (e.g., doctor or nurse) that you have syphilis.

Self-reported HIV testing and diagnosis

Two-thirds of all participants had been tested for HIV (66.0%) with a significantly higher proportion of female participants reporting ever being tested (71.3% versus 62.6% for male participants). Overall, 1.0% of participants reported having been previously diagnosed with HIV, and a slightly but significantly higher proportion of female participants reported this (1.7% versus 0.6% for male participants). Not all the participants who reported a previous diagnosis with HIV consented to testing for this survey. As a result, Table 2 shows the proportion of HIV-seropositive participants (0.9%) to be smaller than the proportion reporting a previous diagnosis.

Self-reported hepatitis C testing and diagnosis

Over half of all participants had been tested for hepatitis C (55.3%) with a significantly higher proportion of female participants reporting ever being tested (59.2% versus 52.9% for male participants). Overall, 4.5% of participants—and a significantly higher proportion of female participants (6.5% versus 3.3% for male participants)—reported being previously diagnosed with hepatitis C.

Self-reported hepatitis B testing and diagnosis

Overall, 43.6% of all participants had been tested for hepatitis B with a significantly higher proportion of female participants reporting ever being tested (47.7% versus 41.0% for male participants). Overall, 0.8% of all participants reported a previous diagnosis with hepatitis B; no statistically significant differences were found between male and female participants.

Self-reported sexually transmitted infection testing and diagnosis

Overall, 65.8% of participants—and a significantly larger proportion of female participants—reported ever being tested for sexually transmitted infections (STIs) (76.2% versus 59.2% male participants). Of these, the majority had been tested for chlamydia (95.9%) and gonorrhea (96.1%); nearly three-quarters had ever been tested for syphilis (74.2%). There were no statistically significant differences between female and male participants in terms of specific STI testing except that a significantly higher proportion of female participants reported having been tested for gonorrhea (97.8% versus 94.8% for male participants).

Of the participants who had been tested for an STI, 28.2% reported they had been previously diagnosed with chlamydia, 11.1% with gonorrhea, and 1.6% with syphilis. Apart from a significantly higher proportion of female participants reporting a previous diagnosis of chlamydia (36.9% versus 21.2% for male participants), no statistically significant differences were noted between male and female participants regarding previous STI diagnoses.

TABLE 7. SELF-REPORTED PHYSICAL AND MENTAL HEALTH STATUS AND HISTORY OF ABUSE

SELF-REPORTED HEALTH STATUS, AND HISTORY OF ABUSE	ALL PARTICIPANTS % (n)	MALE PARTICIPANTS % (n)	FEMALE PARTICIPANTS % (n)	P-VALUE
Physical health status				
Self-reported physical health status at time of interview (n=1395)				
Poor	5.7 (79)	5.2 (45)	6.4 (34)	
Fair	21.4 (298)	16.1 (139)	29.8 (159)	
Good	39.3 (548)	38.9 (335)	39.9 (213)	<0.001
Very good	20.7 (289)	23.3 (201)	16.5 (88)	
Excellent	13.0 (181)	16.4 (141)	7.5 (40)	
Mental health status				
Self-reported mental health status at time of interview (n=1395)				
Poor	9.5 (132)	8.1 (70)	11.6 (62)	
Fair	21.9 (305)	20.5 (176)	24.1 (129)	
Good	32.7 (456)	30.5 (262)	36.2 (194)	<0.001
Very good	17.8 (249)	19.6 (168)	15.1 (81)	
Excellent	18.1 (253)	21.3 (183)	13.1 (70)	

History of abuse				
Proportion who have experienced emotional abuse[a] (n=1393)	71.9 (1002)	65.3 (557)	82.4 (445)	<0.001
Proportion who have experienced physical abuse[b] (n=1393)	60.2 (839)	55.3 (472)	68.0 (367)	<0.001
Proportion who have experienced sexual abuse[c] (n=1393)	32.2 (448)	18.1 (154)	54.4 (294)	<0.001
Proportion who have experienced neglect[d] (n=1393)	48.5 (676)	43.0 (367)	57.2 (309)	<0.001
Proportion who have witnessed violence[e] (n=1393)	76.4 (1064)	74.7 (637)	79.1 (427)	0.060

Note: Percentages may not sum to 100.0 due to rounding. Where the data in the table contain small cell counts, interpret the results with caution. P-values are based on chi square (χ^2) statistic.

[a] *Emotional abuse* was defined as verbal abuse, making threats, being humiliated or ridiculed, destruction of personal property, etc.

[b] *Physical abuse* was defined as physical fighting between you and your parents/caregivers or physical abuse (pushing, shoving, hitting, burning), etc.

[c] *Sexual abuse* was defined as non-consensual touching (touching when you don't want to be touched, fondling, harassment, sexual assault).

[d] *Neglect* was defined as parents/caregivers failing to protect you from abuse, neglecting your personal and physical needs (food, shelter, clothing), etc.

[e] *Witnessing violence* was defined as witnessing violent events, overhearing arguments, being taken hostage, "watching it go down," being a bystander, being forced to be party to a violent act, etc.

Self-perception of physical and mental health status

Just under three-quarters of participants reported good to excellent physical health (73.0%) and just over two-thirds reported good to excellent mental health (68.6%).

Higher proportions of female participants reported their physical health status as poor (6.4% versus 5.2% for male participants), fair (29.8% versus 16.1% for male participants) or good (39.9% versus 38.9% for male participants). Conversely, higher proportions of male participants reported their physical health status as very good (23.3% versus 16.5% for female participants) or excellent (16.4% versus 7.5% for female participants).

Differences between male and female participants were also observed with self-reported mental health status. Higher proportions of female participants reported their mental health status as poor (11.6% versus 8.1% for male participants), fair (24.1% versus 20.5% for male participants), or good (36.2% versus 30.5% for male participants) and higher proportions of male participants reported their mental health status as very good (19.6% versus 15.1% for female participants) or excellent (21.3% versus 13.1% for female participants).

Self-reported history of abuse (emotional, physical, sexual), experiences of neglect, and witnessing violence

Many youth leave home and become street-involved due to conflict, including abuse and violence within their family and home environment.[13] Experience of abuse directly and indirectly impacts STBBI vulnerability and can affect the sexual risks street-involved youth take. In particular, youth who have been sexually abused in childhood may adopt negative coping mechanisms such as substance use, unprotected sex, and multiple sex partners, all of which increase the risk for STBBIs.[14]

Just under three-quarters of all participants reported experiencing emotional abuse (71.9%), with a significantly higher proportion of female participants reporting experiencing emotional abuse (82.4% versus 65.3% for male participants). Similarly, just under two-thirds of all participants reported physical abuse (60.2%), with a significantly higher proportion of female participants reporting experiencing physical abuse (68.0% versus 55.3% for male participants). Sexual abuse was reported by 32.2% of all participants, with a significantly higher proportion of female participants reporting experiencing sexual abuse (54.4% versus 18.1% for male participants).

Just under half of all participants had experienced neglect (48.5%), with a significantly higher proportion of female participants reporting this (57.2% versus 43.0% for male participants). Just over three-quarters of all participants reported witnessing violence (76.4%); female and male participants did not differ significantly in reporting witnessing violence (79.1% versus 74.7%, respectively).

TABLE 8. HEALTH-RELATED SERVICE KNOWLEDGE, USE AND BARRIERS

	ALL PARTICIPANTS % (n)	MALE PARTICIPANTS % (n)	FEMALE PARTICIPANTS % (n)	P-VALUE
Knowledge of health-related services (n=1384)				
Proportion who knew where to go for physical or mental health services				
Yes, know where to go	87.1 (1206)	83.9 (712)	92.3 (494)	<0.001
No, don't know where to go	12.9 (178)	16.1 (137)	7.7 (41)	
Health-related services ever used (n=1206)[a]				
Youth drop-in centre	43.8 (528)	45.4 (323)	41.5 (205)	0.183
Walk-in clinic	32.9 (397)	33.0 (235)	32.8 (162)	0.939
Hospital or emergency room	24.7 (298)	28.2 (201)	19.6 (97)	<0.001
Family doctor office	23.4 (282)	20.9 (149)	26.9 (133)	0.016
Other[b]	19.7 (237)	19.5 (139)	19.8 (98)	0.892
Community organization[c]	19.4 (234)	20.6 (147)	17.6 (87)	0.190
Outreach nurse[d]	16.8 (203)	16.9 (120)	16.8 (83)	0.981
Sexually transmitted infections clinic	8.0 (96)	6.6 (47)	9.9 (49)	0.036
Perceived barriers to accessing health-related services[e] (n=1398)				
Proportion who reported perceived barriers to accessing health-related services	48.1 (672)	46.7 (402)	50.2 (270)	0.210
Types of barriers (of participants who reported any perceived barriers, n=672)				
Lack of a health card	21.9 (147)	24.4 (98)	18.1 (49)	0.056
Long wait times	16.2 (109)	16.2 (65)	16.3 (44)	0.965
Other[f]	13.5 (91)	13.9 (56)	13.0 (35)	0.719
Hard to get to health-related services	12.1 (81)	10.2 (41)	14.8 (40)	0.072
Negative experience with health care	9.7 (65)	10.4 (42)	8.5 (23)	0.407
Financial issues[g]	8.5 (57)	7.5 (30)	10.0 (27)	0.247

Fear or anxiety around health care	8.2 (55)	7.7 (31)	8.9 (24)	0.585
Limited opportunities to access health- related services	7.0 (47)	5.2 (21)	9.6 (26)	0.028
Transportation issues	6.7 (45)	4.7 (19)	9.6 (26)	0.013
Local social norms[h]	6.7 (45)	7.0 (28)	6.3 (17)	0.734
Lack of motivation	5.2 (35)	5.0 (20)	5.6 (15)	0.740

Note: Percentages may not sum to 100.0 due to rounding. Where the data in the table contain small cell counts, interpret the results with caution. P-values are based on chi square (χ^2) statistic unless otherwise indicated.

[a] Health services used with frequencies of less than 5% were not presented in the table and include the following: school nurse, mobile health clinic or ambulance, and anonymous HIV clinic.

[b] *Other* includes regional programs, family or friends, shelters, refugee centres, crisis lines, authority figures (e.g., teacher, elder, parole officer, priest, counsellor, etc.), Internet, library, pharmacy and other similar responses.

[c] *Community organization* includes a community health organization or any other organization that provided health-related services not mentioned in any of the other response categories.

[d] *Outreach nurse* refers to a nurse doing street outreach work or working in a shelter.

[e] Perceived barriers to accessing health-related services with a frequency of less than 5% are not shown in the table; they include the following: limited information about health-related services, gender of health care provider, service delivery, anonymity and confidentiality issues, concern about possible discrimination due to gender or sexual orientation, perceived lack of culturally appropriate health-related services, and problems with identification documentation other than health card.

[f] *Other* types of barriers include addictions, age, partners or family members, citizenship issues, pets, illiteracy, mental health issues, child care, and other unclassifiable responses.

[g] *Financial issues* refers to a lack of insurance or extended coverage.

[h] *Local social norms* refer to stigma, shame, or social discomfort experienced by the participant because of circumstances that hindered them from accessing health care within their community.

Health-related service knowledge and use

Over three-quarters of all participants indicated they knew where to go for physical or mental health-related services (87.1%), with a higher proportion of female participants reporting knowing this (92.3% versus 83.9% for male participants). Of the health-related services ever used, participants reported using youth drop-in centres (43.8%), walk-in clinics (32.9%), hospitals or emergency rooms (24.7%), and family doctor offices (23.4%). A significantly higher proportion of male participants reported hospital or emergency room use (28.2% versus 19.6% for female participants), while significantly higher proportions of female participants reported using a family doctor's office (26.9% versus 20.9% for male participants) and an STI clinic (9.9% versus 6.6% for male participants).

Health-related service barriers

Nearly one-half of all participants reported perceived barriers to accessing health-related services (48.1%). The most commonly reported barriers among the 672 participants who reported perceiving them were lack of a health card (21.9%), long wait times (16.2%), hard to get to health-related services (12.1%), negative experiences with health care (9.7%), and financial issues (e.g., lack of extended health insurance coverage; 8.5%). Male and female participants did not differ significantly in how they perceived barriers to accessing health care, except that a higher proportion of female participants reported limited opportunities to accessing health-related services (9.6% versus 5.2% for male participants) and transportation issues (9.6% versus 4.7% for male participants).

Conclusions

Street-involved youth may experience many negative health outcomes caused by poor living conditions on the street, and they may experience barriers that affect their ability to obtain testing, treatment, or care.[7,15] The key findings from the Y-Track Phase 6 analysis demonstrate that the challenges and risk behaviours associated with this sample population are similar to those discussed in the research literature on street-involved youth, and that this sample population is disproportionately impacted by STBBIs compared to Canadian youth overall.

There are some limitations to the Y-Track findings. The survey used non-random sampling, which means that findings may not be representative of all street-involved youth in Canada. In addition, findings are based on self-reported data, which means that certain risk behaviours were over- or underreported. Despite these limitations, findings from Y-Track can be used to evaluate and improve existing health and social support services offered at the local, provincial, and national level to street-involved youth in Canada.

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APPENDIX I

TESTING METHODS AND INTERPRETATION OF TEST RESULTS

INFECTION	TESTING METHOD(S) USED	INTERPRETATION OF TEST RESULTS
HIV	Testing of serum samples was performed using the Bio-Rad GS HIV-1/HIV-2 plus O EIA. Confirmatory testing was subsequently performed using the Innogenetics Inno-LIA HIV I/II Score Assay.	A positive result indicated a current HIV infection.
Hepatitis B	Hepatitis B testing was performed at local public health labs, as per local testing protocols and algorithms. Testing was done using a series of serological markers that include the following: hepatitis B surface antigen (HBsAg), antibody to hepatitis B surface antigen (Anti-HBs) and antibody to hepatitis B core antigen (Anti-HBc).	Different serological combinations indicate current infection (acute or chronic), immunity (natural or vaccine-mediated), and current susceptibility to hepatitis B virus infection. All are of clinical interest.
Hepatitis C	Testing of serum samples was performed using the Ortho® HCV version 3.0 EIA. Confirmatory testing was subsequently performed using the Innogenetics Inno-LIA HCV Score Assay.	A positive test result indicated a past or current HCV infection, and did not discriminate acute from chronic or resolved infections.
HSV-1	Testing of serum samples was performed using the Bionuclear Diagnostics Focus HerpeSelect 1 IgG (EIA screening assay).	A positive test result indicated either a latent or active HSV-1 infection.
HSV-2	Testing of serum samples was performed using the Bionuclear Diagnostics Focus HerpeSelect 2 IgG (EIA screening assay).	A positive test result indicated either a latent or active HSV-2 infection.
Chlamydia	Testing of urine samples was performed using the Roche Amplicor PCR.	A positive test indicated a current chlamydia infection.
Syphilis	Testing of serum samples was performed using a combination of screening and confirmatory tests including syphilis enzyme immunoassay (EIA), Rapid Plasma Reagin (RPR), T. pallidum particle agglutination assay (TP-PA), and INNO-LIA Syphilis assay.	A positive result was due to the presence of antibodies against syphilis, which indicated either past or present syphilis infection but did not distinguish acute from chronic or resolved infections.
Gonorrhea	Testing of urine samples was performed using the Roche Amplicor PCR.	A positive test indicated current gonorrhea infection.
HTLV	Testing of urine samples was performed using the Ortho HTLV I/II Antibody Capture EIA. Confirmatory testing was subsequently performed using Innogenetics INNO-LIA HTLV I/II Score Assay.	A positive result indicated a current HTLV infection.