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Long-term benefits of providing transitional services to youth aging-out of the child welfare system: Evidence from a cohort of young people who use drugs in Vancouver, Canada

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Abstract

Background: Youth aging-out of the child welfare system (CWS) experience numerous vulnerabilities including, elevated rates of substance use and substance use disorders. Calls to improve services to transition youth to independence are common; however, evidence of the long-term impacts associated with transitional service utilization is scarce. Further, existing services frequently lack appropriate supports for substance using youth and it is unknown if youth are able to access such services. In the present study, we assess the relationship between transitional service utilization and health and social outcomes among a cohort of people who use drugs (PWUD) that aged-out of the CWS.

Methods: Data were obtained from two harmonized cohorts of PWUD in Vancouver, Canada. Those who re-ported aging-out were asked about service utilization, availability, barriers, and interest across seven categories of transitional services. Multivariable logistic regression analyses were conducted to assess the relationship between having previously utilized transitional services and current health and social outcomes.

Results: Between December 2014 and November 2017, 217 PWUD reported having previously aged-out of the CWS. Across service categories, reported service utilization prevalence ranged from 16.6–61.8% while unmet demand ranged from 64.8–78.4%. In multivariable analyses, compared to individuals who utilized 1 service while aging-out, having utilized 4–7 services was significantly associated with reduced odds of current homelessness (adjusted odds ratio [AOR]=0.29) and engaging in daily drug use (AOR=0.35) (both $p<0.05$).

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Declaration of Competing Interest

None

Conclusion: Findings suggest that this understudied high-risk population of PWUD and aged-out of the CWS experience long-term benefits associated with transitional service utilization and are interested and willing to engage in these services. However, given high unmet demand, findings also highlight considerable gaps in service delivery and support calls for extending the age of emancipation for all youth in the CWS and in particular, for additional harm reduction and substance use supports embedded into service models.

Keywords

Child welfare system; Aging-out; Street-involved youth; People who use drugs; Service access; Drug use trajectories; Canada

INTRODUCTION

Youth involved with the child welfare system (CWS) are widely recognized as a vulnerable population that commonly experience numerous negative health and social disparities across the life course (Curry & Abrams, 2015; Fowler, Toro, & Miles, 2009; Havlicek, Garcia, & Smith, 2013; Leve et al., 2012). Chief among these concerns, elevated rates of substance use and substance use disorders have been observed among youth in care compared to the general population of young people (Arteaga, Chen, & Reynolds, 2010; McDonald et al., 2013; Pilowsky & Wu, 2006); with a smaller body of research suggesting substance use issues may be particularly concentrated among youth who age-out of the CWS (Narendorf & McMillen, 2010; Vaughn, Ollie, McMillen, Scott, & Munson, 2007). This is significant given that adolescence is a critical period for cognitive development as well as the establishment of life-long health behaviours (Clarke et al., 2001; Greeson, 2013; Steinberg, 2008). Adolescence is generally regarded as the period when risk for initiating substance use is highest, as well as when substance use increases, peaking in young adulthood (Brown et al., 2008). Further, during the transition from adolescence to adulthood, neurobiological changes occur (e.g., synaptic pruning of the prefrontal cortex and limbic brain regions) that may be disrupted by early substance use (Schulenberg, Sameroff, & Cicchetti, 2004; Squeglia & Gray, 2016).

The pathways that put youth in care at a heightened risk for initiating substance use are multifactorial. Youth are frequently taken into child welfare services due charges of abuse, neglect and exposure to violence (U.S. Department of Health, Services Administration for Children, Administration on Children Youth, & Children, 2018; Public Health Agency of Canada, 2008). These adverse childhood experiences are well-documented risk factors for subsequent initiation into substance use (Mersky, Topitzes, & Reynolds, 2013). Similarly, parental substance use is common among families involved with the CWS, which has been shown to have an intergenerational influence (Barker et al., 2014; Smith, Johnson, Pears, Fisher, & DeGarmo, 2007; Von Borczyskowski, Vinnerljung, & Hjern, 2013). Furthermore, prior research has demonstrated a protective effect of strong familial relationships and positive adult role-models in mitigating substance use initiation among adolescents (Brown & Shillington, 2017), which for many youth who age-out of the CWS, are lacking.

In the Canadian province of British Columbia (B.C.) where the present study is set, a recent review by the B.C. Coroners Service found that among all young people aged 17–25 who died in the province between 2011 and 2016, 13% (n=200) were either currently or formerly (i.e., aged-out) involved with the child welfare system (B.C. Coroners Service, 2018). Almost half (47%) of deaths among youth and young adults with a history of child welfare involvement were attributed to drug overdose - the primary cause of death among this group - compared to 22% of deaths attributed to drug overdose among young people without a history of child welfare involvement (B.C. Coroners Service, 2018). This disparity highlights that overdose fatalities are particularly concentrated among youth with a history of CWS involvement and is supported in the wider literature. Studies among homeless and substance using populations have consistently found that between 35–50% of study participants had a history of CWS involvement (Bender, Thompson, Pollio, & Sterzing, 2010; Gaetz, O'Grady, Bill, Kidd, Schwan, & Canadian Observatory on Homelessness Press, 2016; Patterson, Moniruzzaman, & Somers, 2015; Putnam-Hornstein, Lery, Hoonhout, & Curry, 2017). This is in stark contrast to the estimated 0.5% of the general population in both the United States and Canada that have been in the CWS (Department of Health et al., 2018; T. P. McDonald, Mariscal, Yan, & Brook, 2014; Statistics Canada, 2017). These rates suggest that individuals experiencing homelessness and substance use are between 70–100 times more likely to have been in government care compared to the general population and may be some of the most vulnerable young people to pass through the CWS. It is for these reasons that we chose to focus on a sample of young people who use drugs with high rates of street-involvement and who aged-out of the CWS in Vancouver, B.C.

The policy context

In response to high rates of substance use, homelessness and other poor outcomes frequently experienced among youth exiting the CWS, there have been changes in legislation in recent decades, as well as increased programs, supports and services aimed at helping youth transition to independence and improve outcomes. Extending the age of emancipation to 21 or mid-twenties is one mechanism that advocates have long proposed to help youth aging-out of care successfully transition to independence. Although some jurisdictions have formally extended the duration of care with legislation and dedicated federal oversight such as the U.S., child welfare is devolved to the provincial and territorial governments in Canada and no formal legislation for extending care beyond the current age of emancipation (i.e., 18 or 19 years old) currently exists. Instead, various piecemeal services and supports have been implemented for youth aging-out of care, which typically involve providing living expenses and support for young people pursuing educational and vocational programs (Canadian Child Welfare Research Portal, 2020). In B.C., the ministry responsible for child welfare implemented, "Agreements with Young Adults" (AYAs), a transitional service that provides living expenses and additional supports for eligible youth between the ages of 19 (i.e., aged-out of the CWS) and 27, but only for a maximum of 48 months (B.C. Ministry of Children and Family Development, 2020). AYA eligibility requirements include: 60% course load in educational or trade skills training program; being engaged in a mental health or addiction treatment program; or participation in an approved life-skills course (B.C. Ministry of Children and Family Development, 2020). Social workers are responsible for creating a transition plan with youth exiting care that includes informing youth about AYAs and

assisting with the application if they wish to, and are eligible for, AYA support. However, for a number of individual (e.g., youth abstaining from participating in transition planning) and structural (e.g., high caseloads of social workers) factors, prior investigations have found transition plans frequently incomplete and youth unaware about AYAs (B.C. Representative for Children and Youth, 2014; B.C. Coroners Service, 2011). While age 27 is closer to the average age young people in B.C. become financially independent and leave home (Statistics Canada, 2017), child welfare advocates argue AYAs are inadequate and inequitable as this approach places the burden on youth to have knowledge of, apply and be approved for a program that has an arduous amount of paperwork and requires re-enrolment every six months (B.C. Representative for Children and Youth, 2014; B.C. Coroners Service, 2011). Furthermore, AYAs are not universally accessible to all youth in care and exclude those who are not able, or ready, to be enrolled in educational, vocational, or addiction treatment programs. Researchers and advocates argue the restrictive eligibility criteria favours the highest functioning youth while actively excluding the most vulnerable leaving the CWS (B.C. Representative for Children and Youth, 2014; Okpych, 2012).

Given criticisms of the restrictive requirements for current transitional programs and extended care support, we sought to assess whether utilization of a greater number of transitional services at the time of emancipation from the CWS was associated with improved health and social outcomes later in life among people who are street-involved and use illicit drugs. We focused on this study population as we sought to determine whether transitional services benefit individuals who are most likely to be ineligible for current extended care programs (e.g., AYAs) when they age-out of the CWS. We then sought to assess unmet demand for transitional services by documenting interest in utilizing additional transitional services and supports had they been offered to this population. To do this, we drew on data from two harmonized cohorts of people who use drugs (PWUD) in Vancouver, Canada. As a first step we evaluated the relationship between having accessed transitional services at the time of emancipation from the CWS on current health and social outcomes among PWUD that aged-out of care. We then documented reports of service utilization, availability, barriers, and interest across seven categories of transitional services.

METHODS

Data were obtained from two open, ongoing prospective cohort studies of PWUD (i.e., the At-Risk Youth Study [ARYS] and the Vancouver Injection Drug User Study [VIDUS]), in Vancouver, Canada. Study procedures and instruments have been harmonized and further details published elsewhere (Strathdee et al., 1997; Tyndall et al., 2001; Wood, Stoltz, Montaner, & Kerr, 2006). In brief, to be eligible, participants must reside in the greater Vancouver region, have used illicit “hard” drugs (e.g., crack, cocaine, heroin, crystal methamphetamine) in the previous 30 days and provide written informed consent. To be eligible for ARYS, youth must be “street-involved,” defined as being absolutely or temporarily without stable housing or having used services for street youth in the previous month and be between the ages of 14–26 at time of enrolment. VIDUS participants must be 18 years or older, HIV-negative and have injected drugs in month prior to study enrolment. All participants are recruited through snowball sampling, self-referral and extensive outreach efforts by field staff and peer research associates. Individuals interested in participating in

the study are screened for inclusion and then offered enrolment. Next, they undergo an informed consent procedure in a private room at the study offices with trained staff who help explain the standardized consent form detailing study protocols, potential uses of study data and biological samples, and possible risks and benefits of participation. Only individuals who provide written informed consent are included in the study. At the baseline study visit and semi-annually thereafter, participants complete interviewer-administered questionnaires, and blood and urine samples for diagnostic testing (e.g., HIV, HCV, fentanyl) are collected by a study nurse. The questionnaire elicits information regarding socio-demographics, substance use patterns, housing status, adverse childhood events, experiences with health and social services, and related exposures. At every study visit, participants are given \$30 honoraria for their time and expertise. The University of British Columbia/Providence Health Care Research Ethics Board has approved both ARYS and VIDUS.

The present analysis was restricted to participants who reported having aged-out of the CWS in the last 20 years and were seen for at least one study visit between December 1, 2014 to November 31, 2017, as measures for this analysis were available for this sample period. Among those who reported having aged-out of the CWS, a subset of questions was asked including: “As you were transitioning out of government care, were the following programs made available to you?” Interviewers then listed seven categories of transitional services with examples to participants. These were: financial support (e.g., social assistance, disability allowance); independent living/Agreement with Young Adults (e.g., housing support, rent, furniture, meals); educational support (e.g., high school equivalency, community college, tuition support); employment services (e.g., resume building, interview skills, work placements); life-skills training (e.g., budgeting, meal preparation, conflict resolution); medical services (e.g., health care, PharmaCare, dental, vision); counselling (e.g., addiction treatment, therapy). For each category participant responses were coded as either: “utilized,” defined as having accessed and engaged with the service; “available but did not access,” defined as the service being available and offered but did not access; “attempted but experienced a barrier,” defined as being unable to access and/or complete the service; or “interested and willing,” defined as interested and willing to utilize the service had it been available or known about it. It should be noted that while our study setting has a universal health care system, pharmaceutical, dental, and vision costs are not fully covered by the public system.

The primary objective of this study was to evaluate the relationship between having received a higher number of transitional services at the time of emancipation from the CWS and past-six-month health and social outcomes at last study visit. To do this we grouped the dependent variable of interest into three categories: having accessed 1 service (reference category); having accessed 2–3 services; and having accessed 4–7 services. These categories were determined based on the distribution of responses. Explanatory variables of interest were selected based on their policy relevance to the aforementioned services or previously identified in research as being associated with service utilization for youth aging-out of the CWS or hypothesized to be confounders (Fowler, Marcal, Zhang, Day, & Landsverk, 2017; Okpych & Courtney, 2014; Pecora et al., 2006). These included: age at last study visit (per year younger); sex (female vs. male); sexual orientation (lesbian, gay, bisexual, two-spirited [LGBT] vs. heterosexual); high school completion or equivalency (yes vs. no); past-six-

month homelessness (yes vs. no); past-six-month employment, defined as having a regular job, temporary work, or being self-employed (yes vs. no); history of incarceration, defined as spending at least one night in juvenile detention, jail or prison (yes vs. no); past-six-month heavy alcohol use, defined according to the National Institute on Alcohol Abuse and Alcoholism (NIAAA) criteria for “heavy” or “at-risk” drinking: average of >3 alcoholic drinks per occasion or >7 drinks per week for women, and an average of >4 alcoholic drinks per occasion or >14 drinks in total per week for men (National Institutes of Health & U.S. Department of Health, 2002); past-six-month daily non-injection or injection drug use (yes vs. no); and Indigenous ancestry (First Nations, Métis, Inuit, Aboriginal vs. other). Indigenous ancestry was included as an explanatory variable of interest given the overrepresentation of Indigenous youth in the CWS and among street-involved populations (Barker et al., 2014; Sinha, Trocmé, Fallon, & MacLaurin, 2013).

We also wanted to investigate whether specific transitional service utilization was associated with the program’s intended outcome. As such sub-analyses were conducted to assess the relationship between: i.) educational support utilization and high school completion as well as, ii.) employment services utilization and past-six-month employment.

As a first step, the bivariable association between each independent variable and categories of the dependent variable were estimated using logistic regression. Next, two fixed multivariable logistic regression models were constructed to assess factors independently associated with different levels of transition service access. We then reported descriptive statistics including counts of service utilization, availability, barriers, and interest across the seven categories of transitional services. The interest response was used to assess willingness to engage with transitional services, and the validity of using willingness measures to predict engagement with health interventions among PWUD has been demonstrated previously (Debeck et al., 2012). Lastly, bivariable associations were estimated for the two sub-analyses described above. All statistical analyses were performed using SAS software version 9.4 (SAS, Cary, NC). All p-values are two sided. In SAS, missing values are considered zero and imputed as “did not utilize” a service.

RESULTS

Over the study period 217 PWUD reported having aged-out of the CWS and were therefore eligible for the current analyses. Among this sample 82 (37.8%) were female, 90 (41.9%) identified as being of Indigenous ancestry and 47 (21.9%) identified as a sexual minority. The median number of years since aging-out was 8.4 (interquartile range [IQR]: 5.1 – 12.7) and the median age at last study visit was 26.4 (IQR: 23.1 – 30.7). Among our sample, 38.6% reported completing high school or equivalency, 37.5% reported being currently employed, 41.4% were currently homeless, and 81.1% had a history of incarceration. Table 1 provides the descriptive statistics for sociodemographic and behavioural characteristics at last study visit, with the exception of sex, Indigenous ancestry, sexual orientation, and high school completion which were measured at the baseline study visit.

Table 2 reports service utilization, availability (but did not access), attempts (but unable to access or complete), and interest (but unavailable) across the seven transitional service

categories. As displayed, reported service utilization was highest for financial support (61.8%), independent living programs (49.8%) and medical services (44.7%). Reported service utilization was comparatively low for counselling (28.1%), life-skills training (24.4%), employment services (21.2%), and educational support (16.6%). Reported interest and willingness to engage was high across all service categories among those who did not or were unable to utilize the service: employment services (78.4%), life-skills training (78.3%), medical services (76.1%), financial support (74.2%), independent living programs (71.3%), educational support (64.8%), and counseling (64.1%).

Tables 3 and 4 presents the bivariable and multivariable logistic regression analyses respectively. In multivariable analyses, compared to individuals who accessed 1 service, those who accessed 4–7 services while aging-out of the CWS were significantly less likely to have experienced past-six-month homelessness (AOR = 0.29, 95% CI: 0.12 – 0.70) or engaged in past-six-month daily non-injection or injection drug use (AOR = 0.35, 95% CI: 0.13 – 0.93), and significantly more likely to be younger (AOR = 1.13, 95% CI: 1.03 – 1.24). A dose-response was observed among those who reported accessing 2–3 services while aging-out (vs. accessing 1 service) for past-six-month homelessness (AOR = 0.48, 95% CI: 0.24 – 0.97), as well as past-six-month daily non-injection or injection drug use (AOR = 0.74, 95% CI: 0.31 – 1.80) and younger age (AOR = 1.08, 95% CI: 1.00 – 1.17) – although daily drug use and younger age were not significant at the lower order ($p=0.51$ and $p=0.06$ respectively).

Lastly, in sub-analyses, compared to PWUD that aged-out but did not utilize educational support while exiting the CWS, those who did had a non-significant increase in the odds of having completed high school (unadjusted odds ratio [OR] = 1.63, 95% CI: 0.79 – 3.38). Similarly, compared to individuals who did not utilize employment services, those who did had a non-significant increase in the odds of reporting recent employment (OR = 1.72, 95% CI: 0.89 – 3.33) [results not shown].

DISCUSSION

Our findings indicate that increased service utilization while transitioning to independence is associated with beneficial long-term impacts among vulnerable young people exiting the CWS. Approximately half our sample of PWUD and who aged-out of care reported utilizing financial, independent living and medical services and supports at the time of emancipation. We found that those who were able to utilize a higher number of transitional services were significantly less likely to report current housing instability or high intensity substance use practices. Further, we observed a dose-response trend between higher number of services utilized and lower odds of recent homelessness and daily drug use, although daily drug use did not meet conventional statistical significance at the lower order (2–3 services vs. 1 service, see Table 4). Findings also highlight significant gaps in service provision and unmet demand among PWUD and who aged-out of care. Specifically, the sample reported low utilization rates for education, employment and life-skills training services, and high rates of reported interest and willingness to engage with these services.

This study also found that younger participants were significantly more likely to report having utilized 4–7 transitional services at the time of emancipation from the CWS compared to older participants. As previously described, there have been considerable changes to legislation, policy and programming to improve stability and outcomes for youth aging-out of care in B.C. and elsewhere in recent decades (B.C. Ministry of Children and Family Development, 2020; Canadian Child Welfare Research Portal, 2020; Child Welfare Information Gateway, 2017). The B.C. Government has invested significant funds into various programs and supports for youth emancipated from the CWS and similar programs exist elsewhere in Canada and elsewhere. Given this context, our finding is likely a reflection, at least in part, of successful efforts by child welfare ministries to improve service delivery over time. While our study findings also demonstrate significant gaps in child welfare policy and programming for PWUD that aged-out of care, it is promising that younger participants in the study sample were significantly more likely to report having utilized a higher number of transitional services.

The majority of research on service utilization and associated impacts among youth leaving care are evaluations of novel interventions (Braciszewski et al., 2018; Brown & Wilderson, 2010; Greeson, Garcia, Kim, & Courtney, 2015; Greeson & Thompson, 2017; Kirk & Day, 2011), or studies that measure short-term outcomes associated with wider policy change (Courtney & Hook, 2016; Courtney, Lee, & Perez, 2011; Kroner & Mares, 2008; Mares & Kroner, 2011; Narendorf & McMillen, 2010; Okpych & Courtney, 2014; Woodgate, Morakinyo, & Martin, 2017). A large, long-running cohort study of youth aging-out of care in Illinois, Wisconsin and Iowa investigated “independent living” service utilization across seven categories of services (i.e., general education, college preparatory, job search, employment, financial literacy, housing), and found that despite service availability, utilization was relatively low at baseline (i.e., prior to ages 17–18 = 29.7%) and both follow-up interviews (i.e., ages 18–19 = 18.7%, ages 19–21 = 12.2%) (Courtney et al., 2011). Interestingly, remaining in care past the age of 17 (per month longer) was found to be a significant predictor of service utilization across all domains at both follow-up periods (Courtney et al., 2011). Prior to federal legislative changes in 2008, Illinois supported youth in care until their 21st birthday while youth aged-out at 18 years old in Wisconsin and Iowa. An earlier report from the same study noted that although youth from Illinois were less likely to have utilized all service areas by their 18th birthday, by age 21, they were more likely to have utilized the majority of service areas compared to peers in Wisconsin and Iowa (Courtney, Dworsky, & Pollack, 2007). Although the potential for selection bias should be acknowledged, as samples were not random and the choice to remain in care may mean that those youth were more likely to have favourable outcomes regardless, these data contribute to the emerging evidence-base for formally extending the age of emancipation from the CWS.

Among PWUD and who aged-out of care, we did not observe significant improvements in educational or employment outcomes associated with utilizing a higher number of transitional services; and educational support and employment services had the lowest reported utilization rates (16.6% and 21.2% respectively), as well as high unmet demand (64.8% and 78.4%). Further, our sub-analyses investigating the relationship between i.) education service utilization and high school completion and, ii.) employment service

utilization and reporting recent employment found non-significant relationships respectively. This is consistent with the aforementioned study assessing service utilization among youth aging-out of care across three states in America that found non-detectable differences in the odds of having received educational services and being enrolled in school or having completed grade 11, as well as having received employment services and current or lifetime employment (Courtney et al., 2011). Similar findings have been reported from qualitative and ethnographic work undertaken in our study setting among street-involved youth whom have repeatedly identified a need for additional education and employment programs and supports. Accounts from these studies suggest that the lack of educational and employment opportunities in youths' lives have contributed to high intensity substance use and entrenchment in street-life (Fast, Small, Krüsi, Wood, & Kerr, 2010; Knight, Fast, DeBeck, Shoveller, & Small, 2017). Taken together, these findings suggest that current service provision and programming in this area may be inadequate to meet demand and poorly targeted for those who are most in need of support.

This study found that among a high-risk sample of PWUD that aged-out of care, those who were able to utilize a higher number of transitional services were less likely to report current homelessness. A wealth of research has established the link between aging-out of the CWS and subsequent homelessness (Dworsky, Napolitano, & Courtney, 2013; Fowler et al., 2009); and previous research has demonstrated moderate success of various supportive housing interventions and ILPs at mitigating subsequent housing instability among young people exiting the CWS (Antle, Johnson, Barbee, & Sullivan, 2009; Brown & Wilderson, 2010; Kroner & Mares, 2008; Mares & Kroner, 2011; Woodgate et al., 2017). Prior research among the general population has identified parents frequently acting as "safety-nets" for their young-adult children with temporary or consistent housing, as well as financial and emotional support (Swartz, Kim, Uno, Mortimer, & O'Brien, 2011). This is supported by data obtained from the 2016 Canadian Census indicating that over one-third (35%) of young adults between the ages of 20–34 were living with a parent; and this proportion has increased substantially over the last several decades (Statistics Canada, 2017). This is contrasted with prior research that early experiences of homelessness are associated with subsequent homelessness and housing instability in adulthood (Chamberlain & Johnson, 2013; Johnson & Chamberlain, 2008). In the context of our study findings, by supporting young people with a multitude of services at the time of transition from the CWS to independence, it is possible that the CWS is replicating the "safety net" that many youth in the general population are privileged to receive. This early stability may disrupt long-term trajectories of housing instability.

Our study also found that participants who were able to utilize a higher number of services while aging-out of care were significantly less likely to report engaging in daily drug use. Youth in care who use drugs face significant barriers to accessing addiction treatment services while aging-out of the CWS (Braciszewski et al., 2018), and to our knowledge, no studies have evaluated the relationship between the cumulative number of transitional services utilized and substance use outcomes, particularly long-term outcomes. Prior research suggests that youth in government care initiate drug use at an earlier age and experiment with "harder" drugs compared to peers (Arteaga et al., 2010; Barker et al., 2014; Barker, Kerr, Dong, Wood, & DeBeck, 2017; Krüsi, Fast, Small, Wood, & Kerr, 2010;

Patterson et al., 2015). Early initiation of injection and non-injection “hard” drug use has been found to be associated with high intensity and riskier drug use practices (e.g., syringe sharing), overdose, and HIV and HCV acquisition (Guarino, Mateu-Gelabert, Teubl, & Goodbody, 2018; Novelli, Sherman, Havens, Strathdee, & Sapun, 2005; Vorobjov et al., 2013). Taken together, these findings suggest that increasing access to transitional services among high-risk youth aging-out of care may mitigate future high intensity substance use. Lastly, as we also found significant unmet demand and interest across all service categories, these findings support calls for making current transitional programs low barrier. By making current programming low barrier, youth at the highest risk for harm may be able to benefit from long-term improvements in housing and substance use outcomes as the present study findings indicate.

In the B.C. context, the transitional program that supports youth aging-out of care, Agreements with Young Adults (AYAs), is somewhat more inclusive than other Canadian and American programs for youth exiting care, as youth engaging in mental health and addiction treatment programs qualify for AYA support. However, the dominant policy approach to youth substance use in general, and particularly within the CWS, is one of prevention and abstinence. For example, despite widescale syringe distribution availability, previous research from our study setting indicates street-involved youth commonly experience difficulty accessing sterile syringes, which may be driving HIV risk behaviours (e.g., syringe sharing) (Bozinoff et al., 2017; Marshall, Shoveller, Wood, Patterson, & Kerr, 2011). Despite documenting an exponential rise in substance use and related injuries and fatalities among youth in care over the past several years, the B.C. Representative for Children and Youth, an independent nonpartisan officer of the legislature, was largely silent on harm reduction while calling for increased residential treatment beds and withdrawal management services (i.e., detox) (B.C. Representative for Children and Youth, 2013, 2016, 2018). This is sharply contrasted with B.C.’s dominant drug policy response founded on harm reduction principles; particularly in the context of a province-wide overdose public health emergency precipitated by the presence of adulterants (e.g., fentanyl) in the illicit drug supply (Government of British Columbia, 2019).

However, drug policy in this area is beginning to shift. In their first report to the B.C. legislature, the newly appointed Representative for Children and Youth called for evidence-based harm reduction policies and programming based on focus groups and administrative data from hundreds of young people in care who use substances (B.C. Representative for Children and Youth, 2018). Recommendations included: youth-specific and low barrier safe consumption services, syringe distribution services, and opioid agonist therapy (e.g., buprenorphine, methadone), as well as training for foster parents, social workers, and educators regarding youth substance use to mitigate placement breakdowns, expulsions, homelessness and entrenchment in drug use scenes (B.C. Representative for Children and Youth, 2018). This report represents a radical departure from the status quo in child welfare policy, and drug policy more generally, as youth who use drugs are frequently excluded from harm reduction policy and planning.

Our study has limitations. First, the inclusion criteria for our study sample (i.e., injection drug use for VIDUS participants and non-injection or injection “hard” drug use for ARYS

participants, as well as street-involvement for ARYS participants) results in a sample of high-risk individuals and excludes, by definition, young people who aged-out of the CWS and transitioned to adulthood without experiencing substance use, street-involvement and perhaps other negative outcomes. Given this sampling bias, our findings may not generalize to other populations of youth who aged-out of care. We acknowledge that not every young person who ages-out of the CWS will use substances or experience housing instability, but given the high prevalence of CWS involvement among substance using and homeless populations (35–65%), our study's aim was to demonstrate the impacts of service utilization among some of the most vulnerable to pass through the CWS. Given the risk environment that PWUD and street-involved populations operate within, and the potential number of years since participants in our study have aged-out (median years since aged-out of CWS: 8, IQR: 5–13), there is the possibility of recall bias. To mitigate recall bias, we restricted our sample to those who had aged-out in the last 20 years (median years since aged-out of CWS: 8, IQR: 5–13), and previous research has shown self-reported risk and drug use behaviour to be largely accurate among adult and youth populations (Brener, Billy, & Grady, 2003; Darke, 1998). Further, our study instrument was unable to capture the temporal relationship between initiating substance use and aging-out of the CWS, further demonstrating the complexity of this relationship. We acknowledge the possibility of unmeasured confounding in our study. Specifically, that participants who accessed a higher number of services while aging-out of the CWS may have done so, in part, due to pre-existing factors that our study instrument was unable to capture. For instance, social factors such as, the presence of healthy adult role-models, extended familial relationships, and engagement in sports, social, religious, scholastic, and cultural activities and clubs, in addition to, individual-levels factors such as resilience and self-esteem have been identified as predictors for successful transitions from adolescence to adulthood among young people with and without a history of CWS involvement (Ames, Rawana, Gentile, & Morgan, 2013; Hines, Merdinger, & Wyatt, 2005; Merdinger, Hines, Osterling, & Wyatt, 2005; O'Connor et al., 2011). Lastly, as previously noted, non-responses/missing data were categorized and imputed into the model as “did not utilize” a service, thereby potentially adding bias towards not having utilized services and underestimating the true effect of having utilized services on study outcomes. However, we believe that due to a limitation of our study instrument, which did not have a response option for those who did not know of, nor were interested in the service, our coding of non-responses was likely accurate that the participant did not utilize the service.

In spite of these limitations, this study represents one of the first to measure the relationship between transitional services utilization at the time of emancipation from the CWS and subsequent long-term health and social outcomes among a high-risk population that aged-out of care. There have been notable improvements in policy and programming for youth aging-out of care in recent decades and our finding that younger participants in our study were more likely to have utilized a higher number of services is likely a reflection of this progress. Further, we observed that this high-risk population of youth benefits significantly from utilizing transitional services when leaving care. This has important policy implications for the current eligibility criteria of transitional services that systemically favours higher functioning youth. We also noted significant gaps in service delivery for this population, with sub-optimal levels of service engagement for employment, education and life-skills

training, as well as high rates of reported interest and willingness to engage across all service categories. Given our findings of improved health and social outcomes associated with increased service utilization and high rates of unmet demand for transitional services, our study supports growing calls for legislators to remove barriers to transitional service programming and extend the formal age of emancipation for all youth in care.

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Table 1.

Sociodemographic and drug use patterns among a cohort of young people who use drugs that aged out of the child welfare system (n=217).

Characteristic	<i>n</i> (<i>n</i> %)
Median age at last study visit (IQR)^a	26.4 (23.1 – 30.7)
Median years since aged-out (IQR)	8.4 (5.1 – 12.7)
Sex at birth	
Female	82 (37.8%)
Male	135 (62.2%)
Indigenous ancestry	
Yes	90 (41.9%)
No	125 (58.1%)
Sexual orientation	
LGBT ^c	47 (21.9%)
Heterosexual	168 (78.1%)
High school completion	
Yes	83 (38.6%)
No	132 (61.4%)
Homeless^b	
Yes	89 (41.4%)
No	126 (58.6%)
Employed^b	
Yes	81 (37.5%)
No	135 (62.5%)
History of incarceration	
Yes	177 (81.1%)
No	39 (18.9%)
Heavy alcohol use^b	
Yes	39 (18.2%)
No	175 (81.8%)
Daily hard drug use^{b,d}	
Yes	168 (77.4%)
No	49 (23.6%)

^a IQR=interquartile range;

^b refers to behaviour or characteristic in the past six months;

^c LGBT=lesbian, gay, bisexual, or two-spirited;

^d reported daily use of injection or non-injection heroin, crystal methamphetamine, crack-cocaine, and/or cocaine over the past-six-months

Table 2.

Observations of reported service utilization, availability, attempts, and interest across seven categories of transitional services among a cohort of young people who use drugs that aged out of the child welfare system (n=217).

Transitional Service	Utilized		Did not Utilize ^a			
	Yes	No ^a	Available but Not Accessed	Attempted but Barrier	Interested and Willing	Non-Response ^b
	n (%)	n (%)				
Financial support	134 (61.8%)	66 (30.4%)	7 (10.6%)	10 (15.2%)	49 (74.2%)	17 (7.8%)
Independent living program	108 (49.8%)	80 (36.9%)	7 (8.8%)	16 (20.0%)	57 (71.3%)	29 (13.4%)
Educational support	36 (16.6%)	145 (66.8%)	29 (20.0%)	22 (15.2%)	94 (64.8%)	36 (16.6%)
Employment services	46 (21.2%)	125 (57.6%)	13 (10.4%)	14 (11.2%)	98 (78.4%)	46 (21.2%)
Life-skills training	53 (24.4%)	115 (53.0%)	11 (9.6%)	14 (12.2%)	90 (78.3%)	49 (22.6%)
Medical services	97 (44.7%)	88 (40.6%)	10 (11.4%)	11 (12.5%)	67 (76.1%)	32 (14.7%)
Counselling	61 (28.1%)	103 (47.5%)	20 (19.4%)	17 (16.5%)	66 (64.1%)	53 (24.4%)

^aPercentages displayed in the 3 'Did not Utilize' columns are calculated using the denominator presented in the 'No' column for each service category respectively;

^bnon-response percentages calculated using total sample as denominator

Table 3.

Bivariable logistic regression analyses assessing the relationship between transitional service utilization and health and social outcomes among a cohort of young people who use drugs that aged out of the child welfare system (n=217).

	Accessed 2–3 services (n=88) vs. 1 service (n=75)		Accessed 4–7 services (n=54) vs. 1 service (n=75)	
Characteristic	Odds Ratio (95% CI) ^a	p-value	Odds Ratio (95% CI)	p-value
Younger age	1.04 (0.98 – 1.11)	0.184	1.08 (1.00 – 1.16)	0.048
Female sex	1.20 (0.63 – 2.29)	0.580	1.60 (0.78 – 3.29)	0.201
Indigenous ancestry	0.88 (0.47 – 1.66)	0.702	1.32 (0.65 – 2.68)	0.442
LGBT ^b	1.97 (0.88 – 4.39)	0.098	2.09 (0.86 – 5.06)	0.103
High school diploma	0.71 (0.37 – 1.34)	0.286	0.88 (0.43 – 1.80)	0.731
Homeless ^c	0.64 (0.35 – 1.20)	0.164	0.43 (0.21 – 0.91)	0.027
Employed ^c	0.94 (0.49 – 1.79)	0.840	1.42 (0.70 – 2.91)	0.334
Incarceration	1.20 (0.53 – 2.70)	0.666	0.90 (0.37 – 2.16)	0.809
Heavy alcohol use ^c	0.49 (0.22 – 1.10)	0.085	0.65 (0.27 – 1.59)	0.347
Daily drug use ^c	0.76 (0.35 – 1.67)	0.496	0.46 (0.20 – 1.05)	0.064

^a CI=confidence interval;

^b LGBT=lesbian, gay, bisexual, two-spirited;

^c refers to behaviours or characteristics in the past-six-months

Table 4.

Multivariable logistic regression analyses assessing the relationship between transitional service utilization and health and social outcomes among a cohort of young people who use drugs that aged out of the child welfare system (n=217).

Characteristic	Accessed 2–3 services (n=88) vs. 1 service (n=75)		Accessed 4–7 services (n=54) vs. 1 service (n=75)	
	Adjusted Odds Ratio (95% CI) ^a	p-value	Adjusted Odds Ratio (95% CI)	p-value
Younger age	1.08 (1.00 – 1.17)	0.063	1.13 (1.03 – 1.24)	0.011
Female sex	1.02 (0.50 – 2.12)	0.947	1.26 (0.53 – 3.01)	0.604
Indigenous ancestry	0.94 (0.48 – 1.88)	0.872	1.52 (0.66 – 3.49)	0.327
LGBT^b	2.25 (0.90 – 5.66)	0.083	2.86 (0.96 – 8.48)	0.059
High school diploma	0.60 (0.30 – 1.20)	0.148	0.86 (0.37 – 1.99)	0.719
Homeless^c	0.48 (0.24 – 0.97)	0.041	0.29 (0.12 – 0.70)	0.006
Employed^c	0.86 (0.40 – 1.85)	0.709	1.06 (0.44 – 2.51)	0.901
Incarceration	2.38 (0.88 – 6.44)	0.088	1.44 (0.49 – 4.21)	0.509
Heavy alcohol use^c	0.39 (0.16 – 0.95)	0.034	0.47 (0.16 – 1.36)	0.163
Daily drug use^c	0.74 (0.31 – 1.80)	0.513	0.35 (0.13 – 0.93)	0.034

^aCI=confidence interval;

^bLGBT=lesbian, gay, bisexual, two-spirited;

^crefers to behaviours or characteristics in the past-six-months