Sex work and the public health impacts of the 2010 Olympic Games

Kathleen N Deering1,2, Jill Chettiar2, Keith Chan2, Matthew Taylor3, Julio SG Montaner1,2, and Kate Shannon1,2,4
1Division of AIDS, Department of Medicine, Faculty of Medicine, University of British Columbia, Vancouver, Canada
2B.C. Centre for Excellence in HIV/AIDS, Vancouver, British Columbia, Canada
3HUSTLE, PEERS Vancouver Resource Society, Vancouver, British Columbia, Canada
4School of Population and Public Health, Faculty of Medicine, University of British Columbia, Vancouver, Canada

Abstract

Objectives—The authors examined the impact of exposure to the 2010 Winter Olympics time period on outcomes measuring disruption of local sex work environments in Vancouver, Canada.

Methods—The authors conducted a before-and-after study, using multivariable logistic regression, to assess the relationship between exposure to the Olympics period (19 January–14 March 2010) versus the post-Olympics period (1 April–1 July 2010) and outcomes.

Results—This study included 207 youth (14+ years) and adult sex workers (SWs) (Olympics: n=107; post-Olympics: n=100). SWs in the two periods were statistically similar, with an overall median age of 33 years (IQR: 28–40), and 106 (51.2%) of indigenous ancestry or ethnic minority. In separate multivariable logistic regression models, the Olympics period remained statistically significantly associated with perceived heightened police harassment of SWs without arrest (adjusted ORs (AOR): 3.95, 95% CIs 1.92 to 8.14), decreased availability of clients (AOR: 1.97, 95% CIs 1.11 to 3.48) and increased difficulty meeting clients due to road closures/construction (AOR: 7.68, 95% CIs 2.46 to 23.98). There were no significantly increased odds in perceived reports of new (0.999), youth (0.536) or trafficked SWs (zero reports) in the Olympic period.

Conclusions—To reduce potential adverse public health impacts of enhanced police harassment and displacement of local sex work markets, results suggest that evidence-based public health strategies need to be adopted for host cities of future events (eg, the London 2012 Olympic Games), such as the removal of criminal sanctions targeting sex work and the piloting and rigorous evaluation of safer indoor work spaces.
INTRODUCTION

The 2010 Winter Olympic Games in Vancouver, Canada, generated substantial international media attention regarding concerns of intensified human trafficking, supply and demand for paid sex, and risks for HIV/sexually transmitted infections (STIs), which are known to be largely concentrated among the street-based sex work market. Similar reports were made during the FIFA World Cup events in Germany (2006) and South Africa (2010), and for the upcoming 2012 Olympics in the UK. Against these growing concerns, evidence suggests significant potential for disruption of more visible street-based sex work environments due to event-related construction and road closures, as well as municipal ‘clean up’ efforts in response to international scrutiny. In Vancouver, an estimated security budget of $900 million and an influx of federal/regional law enforcement officers generated further concerns regarding enhanced police crackdowns and potential human rights violations. The main objective of this analysis was to examine the potential public health impacts of the Olympics on disruption of local sex work environments in the context of HIV/STI risk in Vancouver.

METHODS

Using time–location sampling, women (including transgendered) who exchanged sex for money within the last 30 days (sex workers (SWs)) were recruited through outreach to outdoor sex work locations (ie, streets), as previously, and indoor sex work venues (ie, massage parlours). The study holds ethical approval through Providence Health Care/University of British Columbia Research Ethics Board. SWs completed informed consent and a brief interviewer-administered cross-sectional screening questionnaire (part of enrolment to a longitudinal cohort, An Evaluation of Sex Workers’ Health Access) on sociodemographics (eg, age, ethnicity), sex work patterns (eg, clients/week) and work environment (eg, solicitation spaces, geographic neighbourhoods). The main exposure variable was the 2010 Winter Olympic Games time period. The Olympics took place from 12 to 28 February 2010, with pre-events, heightened security and road closures beginning in January. Time period 1, constituting the period immediately before and during the Olympics (‘Olympics period’), was therefore defined as 19 January–14 March 2010 and time period 2 (‘Post-Olympics period’) was defined as 1 April–13 July 2010. The 2-week gap from 15 March to 31 March 2010 was dropped to better capture the period when city-wide changes occurred.

The relationships between the Olympics period and multiple outcomes were examined. Outcomes measured experiences with police, construction, traffic/road closures and other disruption of sex work (eg, ability to meet clients). Using multivariable logistic regression, we fitted separate confounder models for the relationship between our exposure variable (Olympics period) and outcomes. Details on model fitting are provided in table 1.

RESULTS

Between January and July 2010, 207 SWs were interviewed (n=107 in the Olympics period; n=100 in the post-Olympics period). The two groups had statistically similar age and ethnicity. The overall median age was 33 years (IQR: 28–40 years), with 101 (48.8%) Caucasian/white SWs and 106 (51.2%) indigenous/ethnic minority SWs. In addition to outdoor/public places (82.5%), SWs worked in a range of indoor venues, including: 54 (26.2%) indoor managed brothels (eg, massage parlours, beauty establishments; micro-brothels); 65 (31.6%) home; and 33 (16.0%) entertainment industry (eg, exotic dance clubs, escort agencies). In the Olympics period compared with the post-Olympics period, we found no statistically significant difference in reporting of an influx in the numbers of SWs within
the neighbourhood of recruitment (p=0.183), from other neighbourhoods in the city (p=0.165) or outside Vancouver (p=0.399). Similarly, we found no statistically significant difference in reporting of a perceived increase in the number of new sex work initiates overall (p=0.999) nor underage youth (<19 years of age) (p=0.536). Finally, there were no reports of perceptions of women being trafficked/sold into sex work in either period.

Table 1 presents changes in disruption of sex work environments in the Olympics period compared with post-Olympics period. In separate multivariable confounder models, the Olympics period remained statistically significantly associated with perceived heightened police harassment of SWs without arrest (adjusted OR; AOR: 3.95, 95% CIs 1.92 to 8.14), decreased availability of clients (AOR: 1.97, 95% CIs 1.11 to 3.48), as well as increased difficulty hooking up with clients due to road closures/construction (AOR: 7.68, 95% CIs 2.46 to 23.98) and due to reduced availability of clients (AOR: 3.59, 95% CIs 1.79 to 7.19).

**DISCUSSION**

Despite sensationalised media coverage leading up to the 2010 Winter Olympics in Vancouver, this study found no statistically significant reports of increases in the supply of SWs during the Olympics period nor reports of women being trafficked/sold into sex work in either time period. Instead, there was a statistically significant reduction in the availability of clients in the Olympics period. This may be explained by our results suggesting a scale-up of police harassment and enhanced difficulties meeting clients due to construction and road closures in the Olympics period. SWs working along a major artery (and main alternate to the TransCanada highway) running from outlying communities into the City of Vancouver also experienced significantly higher police harassment without arrest (results not shown). While coordinated local enforcement efforts within the inner city core likely curtailed enhanced police enforcement of marginalised, street-based populations during the Olympics period, these results suggest increased police harassment elsewhere. Police harassment/crackdowns can displace outdoor sex work markets to more isolated spaces away from health and support services and increase risks of violence and transmission of HIV/STIs.

The study outcomes measured SWs’ perceived changes in the supply/demand of sex work and all changes may not have been captured. Since our study began in January 2010, we were unable to compare our two time periods with one prior to January 2010 to assess trends over a longer period. However, our method has been used successfully previously to examine changes over two time periods. As previously, to address potential limitations of comparing two samples in different time periods, we adjusted for factors that could have caused bias (eg, type/geographic location of solicitation spaces). Our sample was not random or population-based, and may not be representative of all SWs in Vancouver. Time-location sampling is considered the best method of recruitment for mobile/hidden populations.

Given growing evidence of the adverse public health impacts of criminalisation and enforcement on the displacement of SWs to isolated spaces as well as heightened violence and HIV/STI risks, these data provide important lessons for other cities planning to host large-scale sporting events, such as the London 2012 Games.

**Acknowledgments**

We thank Peter Vann, Calvin Lai and Ofer Amram for their research and administrative support, and our community partners and advisory board members for their ongoing feedback and expertise. We also thank the research staff at AESHA for their dedicated work, and in particular Lindsey Jer, Julia Homer, Jessica Xi Jia, Allison Hibbert and Alex Scott.
**Funding** The funding agencies played no role in the analyses and the paper does not necessarily reflect the position of the funding agencies. This research was funded by a CIHR (HHP-98835) and NIH operating grants (1R01DA028648-01A1). KND is supported by a Canadian Institutes of Health Research Postdoctoral Research Award (Bisyb Award) and a Michael Smith Foundation for Health Research (MSFHR) Postdoctoral Research Award; JSGM is supported by the Ministry of Health, from the Province of British Columbia; through a Knowledge Translation Award from the Canadian Institutes of Health Research (CIHR); and through an Avant-Garde Award (No 1DP1DA026182-01) from the National Institute on Drug Abuse, at the US National Institutes of Health. KS is supported by NIH (1R01DA028648-01A1), a CIHR New Investigator Award and Peter Lougheed Award, and a MSFHR Scholar Award.

**References**

Key messages

- There is a dearth of relevant scientific data examining the impact of large-scale sporting events on vulnerable populations such as sex workers.
- There was no evidence in this study to support concerns of an influx of sex workers or reports of trafficking of women and girls.
- To reduce potential adverse impacts from displacement of local sex work markets, evidence-based public health strategies should be adopted for host cities of future events.
- The removal of criminal sanctions targeting sex work and the piloting and rigorous evaluation of safer indoor sex work spaces should be considered.
### Table 1
The effect of the Olympics period on disruption of sex work environment in the context of HIV/STI risk

<table>
<thead>
<tr>
<th>Valid n</th>
<th>Overall (n=207), n (%)</th>
<th>Period 1: Olympics period (n=107), n (%)</th>
<th>Period 2: post-Olympics period (n=100), n (%)</th>
<th>Multivariable OR (95% CIs)</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Heightened police harassment without arrest (^7)</td>
<td>202</td>
<td>85 (42.1%)</td>
<td>55 (51.4%)</td>
<td>30 (31.6%)</td>
</tr>
<tr>
<td></td>
<td>Heightened police arrests of clients</td>
<td>202</td>
<td>14 (6.9%)</td>
<td>10 (9.3)</td>
<td>4 (3.2)</td>
</tr>
<tr>
<td></td>
<td>Heightened police arrest of sex workers</td>
<td>202</td>
<td>12 (5.9%)</td>
<td>6 (5.6%)</td>
<td>6 (6.3%)</td>
</tr>
<tr>
<td></td>
<td>Decrease in the numbers of clients available</td>
<td>200</td>
<td>91 (45.5%)</td>
<td>56 (53.8%)</td>
<td>35 (36.5%)</td>
</tr>
<tr>
<td></td>
<td>Difficulty hooking up with clients due to road closures/construction</td>
<td>200</td>
<td>26 (13.0%)</td>
<td>22 (21.4%)</td>
<td>4 (4.1%)</td>
</tr>
<tr>
<td></td>
<td>Difficulty hooking up with clients due to a decrease in clients available</td>
<td>200</td>
<td>56 (28.0%)</td>
<td>39 (37.9%)</td>
<td>17 (17.5%)</td>
</tr>
<tr>
<td></td>
<td>Difficulty hooking up with clients due to increase in police surveillance</td>
<td>200</td>
<td>56 (28.0%)</td>
<td>36 (35.0%)</td>
<td>20 (20.6%)</td>
</tr>
<tr>
<td></td>
<td>Difficulty hooking up with clients due to increases in police raids/crackdowns/arrests</td>
<td>200</td>
<td>20 (10.0%)</td>
<td>14 (13.6%)</td>
<td>6 (6.2%)</td>
</tr>
<tr>
<td></td>
<td>Difficulty hooking up with clients due to increases in the numbers of workers</td>
<td>200</td>
<td>38 (19.0%)</td>
<td>22 (21.4%)</td>
<td>16 (16.5%)</td>
</tr>
<tr>
<td></td>
<td>Influx of sex workers</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Within this neighbourhood</td>
<td>202</td>
<td>15 (7.4%)</td>
<td>5 (4.8%)</td>
<td>10 (10.2%)</td>
</tr>
<tr>
<td></td>
<td>From other Vancouver neighbourhoods</td>
<td>202</td>
<td>42 (20.8%)</td>
<td>26 (25.0%)</td>
<td>10 (10.2%)</td>
</tr>
<tr>
<td></td>
<td>From outside Vancouver</td>
<td>202</td>
<td>25 (12.4%)</td>
<td>15 (14.4%)</td>
<td>16 (16.3%)</td>
</tr>
<tr>
<td></td>
<td>Increase in new sex work initiates</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overall</td>
<td>202</td>
<td>68 (33.7%)</td>
<td>35 (33.7%)</td>
<td>33 (33.7%)</td>
</tr>
<tr>
<td></td>
<td>Under age youth (&lt;19 years old)</td>
<td>202</td>
<td>27 (13.4%)</td>
<td>12 (11.5%)</td>
<td>15 (15.3%)</td>
</tr>
<tr>
<td></td>
<td>20–25 years old</td>
<td>202</td>
<td>35 (17.3%)</td>
<td>15 (14.4%)</td>
<td>20 (20.4%)</td>
</tr>
<tr>
<td></td>
<td>25+ years old</td>
<td>202</td>
<td>36 (17.8%)</td>
<td>16 (15.4%)</td>
<td>20 (20.4%)</td>
</tr>
</tbody>
</table>

\(^a\) Reference period of the last month (30 days).

\(^b\) Police stopping/following sex workers (and their clients) without arrest.

\(^c\) Adjusted for the following variables, in multivariable logistic regression analysis: Heightened police harassment without arrest (sexual minority, number of shifts per week; work along the primary transport route/commercial corridor; solicited in an indoor managed setting; solicited at home/in-call); Decrease in the numbers of clients available (work along the primary transport route/commercial corridor); Difficulty hooking up with clients due to road closures/construction (sexual minority; work in the inner-city epicentre); and Difficulty hooking up with clients due to a decrease in clients available (work in the inner-city epicentre; solicit outdoors/in public spaces).