

Leo Beletsky is Assistant Professor of Law and Health Sciences, School of Law and Bouvé College of Health Sciences, Northeastern University, Boston, USA; Adjunct Professor, Division of Global Public Health, UCSD School of Medicine, San Diego, USA

Rachel Thomas is Senior Program Officer, Sexual Health and Rights Project (SHARP), Open Society Foundations, New York, USA

Marina Smelyanskaya was a Program Officer, International Harm Reduction Development Programme (IHRD), Open Society Foundations, New York, USA

Irina Artamonova is a Statistician, Division of Global Public Health, UCSD School of Medicine, San Diego, USA

Natalya Shumskaya is Country Director, AIDS Foundation East-West, Bishkek, Kyrgyzstan

Aijan Dooronbekova was a Data Analyst, AIDS Foundation East-West, Bishkek, Kyrgyzstan

Aibek Mukambetov is Director, Public Health Program, Soros Foundation Kyrgyzstan, Bishkek, Kyrgyzstan

Heather Doyle is Director, Sexual Health and Rights Project (SHARP), Open Society Foundations, New York, USA

Rebecca Tolson is Deputy Director, International Harm Reduction Development Programme (IHRD), Open Society Foundations, New York, USA

Competing interests: None declared.

Please send correspondence to the authors c/o Leo Beletsky. Mailing address: Northeastern University School of Law, 400 Huntington Ave., Boston, MA. Email: Leob@alumni.brown.edu

Copyright © 2012 Beletsky et al. This is an open access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/3.0/>), which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author and source are credited.

POLICY REFORM TO SHIFT THE HEALTH AND HUMAN RIGHTS ENVIRONMENT FOR VULNERABLE GROUPS: THE CASE OF KYRGYZSTAN'S INSTRUCTION 417

Leo Beletsky, Rachel Thomas, Marina Smelyanskaya, Irina Artamonova, Natalya Shumskaya, Aijan Dooronbekova, Aibek Mukambetov, Heather Doyle, Rebecca Tolson

ABSTRACT

Background: Police activities shape behavior and health outcomes among drug users, sex workers, and other vulnerable groups. Interventions to change the policing of drug consumption and sex work in ways that facilitate public health programming and respect for human rights have included policy reforms, education, and litigation. In 2009, the Kyrgyz government promulgated "Instruction 417," prohibiting police interference with "harm reduction" programs, re-enforcing citizen rights, addressing police occupational safety concerns, and institutionalizing police-public health collaboration.

Objectives/Methods: Although ample evidence points to gaps between intended and actual impact of policy and other structural interventions, there is little research on the impact of initiatives designed to align policing, health, and human rights. We conducted a police officer survey to assess links between Instruction 417 knowledge and legal and public health knowledge, attitudes towards harm reduction programs, and intended practices targeting vulnerable groups.

Results: In a 319-officer sample, 79% understood key due process regulations, 71.1% correctly characterized law on sex work, 54.3% understood syringe possession law, while only 44.4% reported familiarity with Instruction 417. Most (72.9%) expressed positive attitudes toward condom distribution, while only 56% viewed syringe access favorably. Almost half (44%) agreed that police should refer vulnerable groups to disease prevention programs, but only 20% reported doing so. In multivariate analysis, knowledge of Instruction 417 was associated with significantly better knowledge about ($aOR=1.84$, 95%CI: 1.12-3.00) and attitudes towards harm reduction programs ($aOR=3.81$, 95%CI:1.35-10.75), and knowledge of due process for the detention of sex workers ($aOR=2.53$, 95%CI:1.33-4.80). Younger, junior officers and those in rural areas may not be well-informed about the policy.

Discussion: While reflecting positively on Instruction 417 as a structural approach to aligning policing and public health, this analysis highlights gaps in policy dissemination and calls for further research to assess street-level impact of interventions on the health and human rights environment for vulnerable groups.

INTRODUCTION

As HIV incidence in such hard-hit areas as sub-Saharan Africa appears to slow, the epidemic continues to gather speed in Mexico, parts of East and Southeast Asia, and countries of the former Soviet Union.¹ In these regions, as elsewhere, injection drug users (IDUs) and sex workers (SWs) are especially vulnerable to acquiring HIV and other bloodborne diseases.² This vulnerability stems from limited access to prevention supplies such as condoms and clean syringes, lack of health services and education, and a number of other factors, including patterns of drug trafficking, migration, and social conflict. Systematic criminalization, marginalization, and stigmatization of these groups is also understood to fuel both the concentrated epidemics among IDUs and SWs, as well as the diffusion into the general population.³

The study of the spread and control of epidemics has traditionally taken the individual as its unit of analysis and intervention. Recent decades brought increasing recognition that, beyond a person's genetics and behavioral propensities, health and disease is shaped by network, institutional, economic, and other forces. This has led to the development of theoretical frameworks and taxonomies of "social" or "structural" determinants of health, as well as the advent of "social epidemiology," a stream of scientific inquiry aimed at understanding the role of context in the production of health.⁴ Using this lens, social epidemiology identifies the need for structural interventions that are designed to shift the environmental forces to advance public health and human rights.

Within this broader Neo-Durkheimian paradigm, Risk Environment Theory has highlighted the distinct role that laws and law enforcement practices play as key structural factors that contribute to HIV infection and other health risks among IDUs and SWs.⁵ Although generally prevalent across the world, sex work and drug use are widely regarded as deviant and are commonly criminalized.⁶ Many of the locales exhibiting heavy burdens of HIV and other injection-related and sexually transmitted pathogens maintain especially draconian approaches toward curbing drug use and prostitution, including detention without trial, coercive and unscientific treatment, and "re-education" modalities, all of which are prone to systematic human rights violations.⁷

Laws can directly impact both individual behavior and public health initiatives targeting vulnerable groups.⁸ Policy relating to possession and distribution of injection equipment determine whether syringe access programs can function openly and at scale.⁹ Laws criminalizing prostitution-related activities drive sex work underground, making it harder for outreach workers to distribute information and condoms, and for sex workers to access medical care.¹⁰ Pharmacy and pharmacopeia policy determines whether condoms, clean syringes, and naloxone (the antagonist used to reverse opioid overdose) are readily available to address public health needs. Similarly, procedural rules that allow the use of prophylactic equipment, such as condoms or syringes, as evidence of criminal activity may undermine community health and public health programming.¹¹

Given the mounting evidence that the policy environment substantially shapes health outcomes, numerous calls have been made for efforts to align laws with public health goals.¹² This has resulted in concerted efforts to reform drug possession and drug paraphernalia laws, decriminalize sex work, and advance policies that build an enabling environment for public health outreach to serve the needs of these vulnerable groups. For example, a number of US states have passed laws liberalizing syringe sales and authorizing syringe exchange, while other countries have decriminalized personal possession of small amounts of drugs.^{13,14} Similarly, sex work decriminalization has been observed to correlate with improved access to prevention services.¹⁵

Even in settings with a less hostile policy environment, unauthorized (or "extra-judicial") police practices can be widespread. These include extortion of money and sexual services, syringe confiscation, unwarranted detention, physical and sexual violence, and other human rights violations against sex workers and drug users. Over the last 15 years, studies from around the world, including the US, Canada, Ukraine, Russia, Vietnam, Thailand, India, and Mexico have repeatedly identified links between experiences with police and risky behavior among members of vulnerable groups.¹⁶ Police encounters, especially those involving human rights violations, have also been linked directly to adverse health outcomes including HIV infection and overdose morbidity.¹⁷

Disregarding legal and procedural protections, police

may continue to harass and extort money from drug users and sex workers who attempt to access outreach services.¹⁸ Research from locales where syringe possession or possession of small amounts of drugs are decriminalized suggests that most IDUs still report recent arrest for syringe possession.¹⁹ Law enforcement appears to play an especially critical role in shaping health risk among vulnerable communities in settings where police management and accountability are weak.²⁰ Many of these same locations top the list of areas where injection-attributable HIV, sexually-transmitted infections (STI), and drug overdose (OD) morbidity and mortality pose significant public health threats.²¹

For public health laws to achieve their stated aims, public health science must strive for a more nuanced understanding of how laws can be used to facilitate an “enabling environment” for health.²² Empirical research has demonstrated that “laws on the books” can deviate substantially from “laws on the streets,” and that this disconnect can limit the impact of public health legislation.²³ There is growing evidence that police are often misinformed about public health-minded reforms or simply choose to ignore them because they see them as enabling antisocial behavior.²⁴ In other contexts, police may derive substantial income from regulating drug and sex markets, so liberalization of these activities may interfere with their financial interests.

This evidence has prompted efforts to change the knowledge, attitudes, incentives, and practices of police toward vulnerable communities.²⁵ These efforts have varied from litigation to educational outreach, to institutional policies adopted by policing organizations.²⁶ Although there is promise that education, incentives, network-building, and other interventions can align policing and public health more broadly, there is still a sparse evidence base on police-side interventions designed to create an enabling environment for public health prevention among vulnerable groups.^{27,28} Part of the overall movement toward policy interventions in health, research on knowledge, attitudes, and behavior of police harnesses empirical methods to better understand the roles of education, institutional incentives, and other factors in shaping the implementation of laws designed to achieve public health aims. This understanding is critical to improved design and tailoring of these policy interventions.

Study setting

Having gained its independence after the breakup of the Soviet Union in 1991, Kyrgyzstan became a major transit point on a key drug trafficking route leading from Afghanistan to Eastern and Western Europe. Largely as a result of the “spillover effect” from drug trafficking, the country experienced rapid increases in rates of drug abuse, subsequently leading to elevated risk of bloodborne disease transmission among IDUs and their partners.²⁹ Today, HIV and STI epidemics remain concentrated among vulnerable groups: HIV prevalence among IDUs is 15% and 1.6% among sex workers (50 times and 5 times the national background rate, respectively). Syphilis prevalence is similarly elevated among IDUs (7%) and sex workers (16%). Estimates of all HIV cases attributable to risky injection (including subsequent sexual or perinatal contact with an injector) range from 66-74%.³⁰

After the breakup of the Soviet Union, most Central Asian states retained many of the Soviet legal and policy approaches towards drug use and sex work.³¹ These approaches are broadly characterized by punitive measures and criminalization, including administrative detention, registration lists, regular police “sweeps,” and other highly draconian measures that violate civil and human rights of drug users and sex workers.³² Kyrgyzstan’s legal framework is somewhat more favorable to risk reduction activities: over-the-counter syringe sales, syringe possession, and the selling of sex are not criminalized. Small-scale drug possession has also been decriminalized.³³

In 2003, the Ministry of the Interior adopted a public health policy statement in response to advocacy by Kyrgyz NGOs and international organizations seeking to improve the functioning of public health programs targeting vulnerable groups. The policy institutionalized police-public health collaboration on HIV prevention by mandating that police not interfere with the operation of syringe exchange programs and outreach activities targeting drug users and sex workers. This policy was updated in 2008 with a more specific mandate for regional commanders to implement the order throughout the regions. Specifically, Instruction 417 combines public health information about the rationale behind harm reduction programs with provisions addressing police

occupational safety, including the risk of needle stick injury (NSI) and other exposure to bloodborne infections.³⁴ The Instruction also prohibits police interference with public health outreach targeting IDUs and sex workers, and mandates cooperation between police and public activities targeting these vulnerable groups. Although no funding was attached to the policy, public health and human rights groups have used the Instruction's practice guidelines, suggestions for training, and a wider normative signal for police-public health collaboration and respect for the rights of vulnerable groups as a platform for follow-up programmatic activity.

The NGO AIDS Foundation East-West (AFEW) is one of the principal public health organizations involved in outreach and advocacy to law enforcement in Kyrgyzstan. As part of a wider project to align police practices with harm reduction programs targeting vulnerable groups, AFEW initiated a national law enforcement survey on a range of information domains. Using these survey data, the analysis in this study focuses specifically on the associations between respondent knowledge of the institutional policy—Instruction 417—and a range of police knowledge, attitudes, and intended practice outcome variables germane to public health prevention efforts targeting vulnerable groups.

METHODS

Study design

A paper-based survey of police officers was conducted in eight locations throughout Kyrgyzstan that were chosen based on a purposive sampling scheme designed to maximize geographic (that is, urban-rural and regional) and institutional (that is, departmental size) diversity. Participants were recruited at all levels of police institutional hierarchy. The eligibility criterion was work as a police officer for at least one year prior to the survey. Regional AFEW employees first contacted departments by phone to secure agreement to serve as survey sites; all departmental employees were invited to participate at survey sites. AFEW employees distributed the surveys, which were then anonymously self-administered in the workplace between March and June 2010. Completed forms were collected and mailed to AFEW offices in Bishkek, Kyrgyzstan for processing. The study was approved by the University of California, San Diego Institutional Review Board.

Study instrument

The questionnaire was constructed based on Diffusion of Innovation Theory and adopted partially from items previously used to evaluate police legal knowledge and trainings; it was pilot-tested with six police officers in Bishkek.³⁵ The Diffusion of Innovation Theory conceptualizes the pattern by which the permeation of information, norms, and other cues predicts adoption of new behaviors through complex social and organizational systems.³⁶ Under this framework, increasing knowledge about a new policy can influence attitudes and intended practices, which in turn shape individual behavior. The instrument assessed the following general domains:

- 1) sociodemographics (for example, gender, ethnicity, age, years of police service);
- 2) relevant legal and criminal procedure knowledge (for example, Instruction 417, legality of syringe possession and sex work, detention procedures);
- 3) knowledge of HIV transmission and prevention information (for example, risk of HIV from unprotected sex or handshake);
- 4) attitudes toward harm reduction programs (for example, syringe exchange, condom distribution), including statements representing punitive approaches characteristic to Central Asia and Eastern Europe;
- 5) knowledge regarding occupational risks and precautions related to bloodborne infections (for example, procedure in workplace blood post-exposure response), and
- 6) past and intended future practices related to encounters with vulnerable groups (for example, referral to harm reduction services).

Knowledge and action items used true/false or multiple choice answer categories, while attitudes questions used 4-item Likert scales assessing respondent agreement (strongly agree-strongly disagree) with statements representing specific viewpoints (for example, "Distributing condoms is good for the health of the community"). Knowledge of Instruction 417 was assessed using a two-question sequence: a binary screener to ascertain familiarity with any formal policy on HIV prevention and interaction with vulnerable populations, and for those who responded in the affirmative, a follow-up question to register perceived content of such an instruction. Respondents reporting no familiarity with any such instruction or failing to correctly note any of Instruction 417's basic provisions were categorized as having no knowledge of Instruction.

Analytical methods

This analysis specifically focuses on associations between respondent knowledge of Instruction 417 with attitudinal, knowledge, and actions related to harm reduction activities. Based on the content of the Instruction and prior studies of police legal knowledge and attitudes about public health interventions targeting vulnerable groups, we hypothesized that knowledge of this policy (the dependent variable in this analysis) would be associated with improved: knowledge about HIV risk and prevention programming (including their policy underpinnings); attitudes toward vulnerable groups and harm reduction programs; and alignment of actual and intended police practices with public health goals (the independent variables in this analysis).³⁷ As potential confounders, our analyses considered socio-demographics (gender, ethnicity, age, years of police service, rank), geographical setting (serving in a municipality vs. town or village), training on HIV prevention issues, or recent contact with harm reduction NGOs.

Data were analyzed using SAS software, version 9 (SAS, Cary, North Carolina). Responses to knowledge items were categorized as correct vs. incorrect based on empirical statements of formal law or basic scientific information (for example, legality of sex work under Kyrgyz law; effect of syringe exchange programs on drug use prevalence). To preserve power, attitudinal Likert items were dichotomized (strongly agree and agree vs. disagree and strongly disagree) and categorized as positive or negative based on question framing. Fisher exact test for binary variables and chi-square test for categorical variables were used to stratify samples based on the exposure variable. For continuous variables, Wilcoxon rank-sum tests were used. Bivariate analysis was conducted using simple logistic regression. Independent variables significant at the $p < 0.05$ level were used to build a multiple logistic regression model. Third- and second-order interactions were evaluated and the presence of multicollinearity between the independent variables in the final model was ruled out by appropriate values of the largest condition index and variance inflation factors.

RESULTS*Sample characteristics*

Overall, 319 law enforcement professionals responded to the survey out of 500 surveys distributed, resulting in a response rate of 64%. As described in Table 1, the resulting sample includes a diverse group of police respondents. On average, our respondents were relatively mature (median age=30), experienced (median years of service=8), and higher-ranked staff (about 20% were cadets or privates). Only a small minority (7.2%) of our respondents were female; more than one in three reported serving in a non-urban setting.

Our respondents were relatively well-versed in basic HIV virology and prevention information: overwhelming majorities correctly characterized the risk of HIV transmission from unprotected sex (87%) and casual contact (96%). Substantially smaller proportions of the sample demonstrated knowledge of key facts about harm reduction programming: just under half correctly stated that syringe access does not increase injection drug use prevalence, while almost two-thirds correctly stated that such programs do not increase NSI risk among police.

Given these knowledge levels, the majority of the sample reported positive attitudes towards harm reduction: almost three-quarters were supportive of condom distribution, and a slight majority was supportive of syringe distribution. Similarly, respondents generally disagreed with statements representing a harsh approach towards vulnerable groups: more than 60% were unsupportive of punitive raids against sex workers, while five out of six were unsupportive of the proposition that public health in their community can be improved by exiling sex workers and IDUs. However, only about 44% had positive attitudes towards the proposition that police officers should contribute to public health efforts by referring members of vulnerable groups to public health services.

Table 1. Descriptive statistics and unadjusted odds ratios representing factors associated with Instruction 417 knowledge

Variable	Category of Interest	Knows Instruction 417 n=138	Doesn't Know Instruction 417 n=181	Total n=319	Unadjusted Odds Ratio	95% Confidence Interval
Sociodemographics						
<i>Age</i>	Median (IQR)	32 (29-38)	29 (26-35)	30 (27-38)	1.06*	(1.03–1.10)
<i>Sex</i>	Female	11 (8.0%)	12 (6.7%)	23 (7.2%)	0.82	(0.35–1.93)
<i>Ethnicity</i>	Kyrgyz	122 (89.7%)	174 (97.2%)	296 (94.0%)	Ref	
	Russian	2 (1.5%)	2 (1.1%)	4 (1.3%)	1.43	(0.20–10.26)
	Other	12 (8.8%)	3 (1.7%)	15 (4.8%)	5.70	(1.58–20.65)
<i>Geographical setting where serving</i>	Urban	102 (73.9%)	100 (55.6%)	202 (63.5%)	Ref	
	Semi-rural/rural	36 (26.1%)	80 (44.4%)	116 (36.5%)	0.44	(0.27–0.71)
<i>Rank</i>	Cadet/private	17 (12.3%)	46 (25.4%)	63 (19.7%)	Ref	
	Officer	121 (87.7%)	135 (74.6%)	256 (80.3%)	2.43	(1.32–4.45)
<i>Years in policing</i>	Median (IQR)	10 (5-15)	7 (3-12)	8 (5-14)	1.08*	(1.04–1.12)
Knowledge, attitudes, and experiences related to harm reduction						
Has received HIV prevention training	Yes	62 (47.0%)	57 (31.8%)	119 (38.3%)	1.90	(1.19–3.02)
Has met with organizations serving vulnerable groups	Yes	33 (24.8%)	28 (15.6%)	61 (19.5%)	1.79	(1.02–3.15)
Knowledge of injection equipment law	Correct	78 (57.4%)	94 (51.9%)	172 (54.3%)	1.93	(1.02–3.63)
Knowledge of sex work law	Correct	105 (76.1%)	121 (67.2%)	226 (71.1%)	1.55	(0.94–2.56)
Knowledge of due process (for SW detention)	Correct	121 (87.7%)	131 (72.4%)	252 (79.0%)	2.72	(1.49–4.97)
Knowledge of HIV risk from unprotected sex	Correct	122 (89.1%)	153 (84.5%)	275 (86.5%)	1.49	(0.76–2.91)
Knowledge of HIV risk from casual contact (casual contact)	Correct	127 (92.7%)	166 (91.7%)	293 (92.1%)	1.15	(0.50–2.64)
Knowledge of effect of IDU syringe access on police risk of NSI	Correct	98 (71.0%)	108 (60.0%)	206 (64.8%)	1.63	(1.02–2.62)

*As measured by one-year increase increment

(table cont'd. next page)

Table 1. Descriptive statistics and unadjusted odds ratios representing factors associated with Instruction 417 knowledge (cont'd.)

Variable	Category of Interest	Knows Instruction 417 n=138	Doesn't Know Instruction 417 n=181	Total n=319	Unadjusted Odds Ratio	95% Confidence Interval
Knowledge of effect of IDU syringe access on IDU prevalence	Correct	76 (55.9%)	77 (43.0%)	153 (48.6%)	1.68	(1.07–2.63)
Attitude on syringe distribution as a public health measure	Positive	87 (63.5%)	91 (50.3%)	178 (56.0%)	1.72	(1.09–2.71)
Attitudes on condom distribution as a public health measure	Positive	102 (74.5%)	129 (71.7%)	231 (72.9%)	3.70	(1.37–10.05)
Attitude on raids against SWs as a public health measure	Negative	78 (56.5%)	115 (63.9%)	193 (60.7%)	0.73	(0.47–1.16)
Attitude on expulsion of IDUs & SWs from location as a public health measure	Negative	107 (77.5%)	161 (89.4%)	268 (84.3%)	1.83	(0.97–3.46)
Attitude on referring IDUs & SWs to services as a public health measure	Positive	73 (52.9%)	66 (36.5%)	139 (43.6%)	1.96	(1.25–3.07)
Would confiscate syringes from IDUs without formal charges/arrest	Yes	42 (30.9%)	42 (23.3%)	84 (26.6%)	1.47	(0.89–2.42)
Has referred IDUs or SW to service organizations	Yes	36 (26.1%)	28 (15.5%)	64 (20.1%)	1.93	(1.11–3.36)
Occupational safety experience and knowledge						
Has experienced occupational NSI (lifetime)	Yes	9 (6.5%)	14 (7.7%)	23 (7.2%)	0.83	(0.35–1.98)
Concerned about contracting disease from occupational NSI	Yes	109 (79.0%)	147 (83.5%)	256 (81.5%)	1.35	(0.76–2.39)
Knowledge of proper response procedures to surface blood exposure	Correct	17 (12.3%)	16 (8.8%)	33 (10.3%)	1.45	(0.70–2.98)
Knowledge of proper response procedure to subcutaneous exposure	Correct	11 (8.0%)	16 (8.8%)	27 (8.5%)	0.89	(0.40–1.99)

In the policy domain, respondents demonstrated marginal levels of knowledge: just over half correctly understood the Kyrgyz law relating to syringe possession. Slightly higher knowledge levels were observed on laws and criminal procedure related to sex work: 71% recognized that sex work is not prohibited by law, 65% correctly understood the procedure for requiring identification from street-based sex workers, while almost 80% correctly understood procedures on sex worker detention. Just over 44% of the respondents reported knowledge of Instruction 417.

Police in our sample acknowledged a range of experiences and intended actions related to vulnerable populations and harm reduction programming. More than one-third reported having received training focused on HIV and other public health prevention, and almost 20% reported direct contact with harm reduction outreach professionals. A similar proportion reported having ever referred sex workers or IDUs to harm reduction services over the course of their police service. Despite moderate levels of knowledge about the legality of syringe possession, more than one-quarter of respondents reported

intent to confiscate injection equipment from IDUs, even in the absence of arrest or detention for other crimes.

With over 7% reporting lifetime experience of occupational NSI, an overwhelming majority of the police respondents expressed concern about contracting HIV from such workplace accidents. These data were even more alarming when considered in the context of extremely low knowledge about workplace safety rules pertaining to accidental puncture wounds (9%) and surface blood exposure (10%).

Bivariate regression analysis

Table 1 lists unadjusted odds ratios for the associations between knowledge of Instruction 417 and respondent profile variables. In these analyses, Instruction knowledge was correlated with a set of respondent characteristics, including non-Kyrgyz ethnicity, longer career, higher officer rank, while serving in rural settings was associated with lack of knowledge of this policy.

Those who reported knowledge of Instruction 417

Table 2. Multivariate model representing significant association between knowledge of Instruction 417 and police employee profiles (n=319)

Variable	Adjusted Odds Ratio	95% Confidence Interval
Serves in urban setting vs. semi-urban	2.28	(1.36-3.83)
Experience, years	1.05	(1.01-1.10)
Officer rank (senior vs. junior)	2.07	(1.02-4.19)
Knowledge of effect of syringe access on injection drug use prevalence (incorrect vs. correct)	1.84	(1.12-3.00)
Knowledge of due process (for SW detention) (incorrect vs. correct)	2.53	(1.33-4.80)
Positive attitudes on condom distribution as a public health measure (positive vs. negative)	3.81	(1.35-10.75)

were more likely to correctly identify policies on sex worker detention and possession of injection equipment, knowledge of the effect of syringe access on police occupational NSI risk, and on overall injection drug use prevalence. Knowledge of the Instruction was also associated with more positive attitudes towards syringe and condom distribution. Those reporting knowledge of the Instruction were also more likely to have received HIV prevention trainings, referred vulnerable groups to public health services, and been in contact with harm reduction professionals.

Multivariate regression analysis

In multivariate modeling, respondent knowledge of Instruction 417 was significantly associated with higher odds that the respondent knows that syringe access does not encourage injection drug use (adjusted odds ratio [aOR] 1.84, 95% confidence interval [CI] 1.12-3.00), and can correctly identify the proper procedure for sex worker detention (aOR 2.53, 95% CI 1.33-4.8) (see Table 2). Knowledge of Instruction 417 was also associated with higher odds that the respondent has positive attitudes towards condom distribution programs (aOR 3.81, 95% CI 1.35-10.75). In the final model, the exposure variable also remained a significant correlate of several respondent characteristics, including serving in an urban setting (aOR 2.28, 95% CI 1.36-3.83), being of higher rank (aOR 2.07, 95% CI 1.02-4.19), and having had a longer career in law enforcement (aOR 1.05, 95% CI 1.01-1.10).

DISCUSSION

To our knowledge, this article is the first to present data on police knowledge, attitudes, and practices pertinent to HIV prevention from a large sample of police respondents. The only other published study of this kind we are aware of covered fewer than 100 respondents from a single US department.³⁸

The gender and geographic profile of our sample probably reasonably reflects the overall makeup of the Kyrgyz police; law enforcement is a male-dominated profession in Kyrgyzstan, as elsewhere, and policing activity is concentrated in urban centers.³⁹ Nonetheless, this study draws on a convenience sample, since it was drawn from police departments whose leadership assented to employees' participation. There is also no information available about potential respondents who chose not to complete the

surveys. The sample is dominated by more mature, experienced, and higher-ranking officers; as in other research, this is likely a result of the opportunity and motivation among older, management-level staff to participate in research as contrasted with junior staff.⁴⁰

No comparative benchmarks on key attitudinal, knowledge, and intended practice data points are available from police respondents in Kyrgyzstan or similar settings, but the high levels of correct HIV transmission knowledge observed here are impressive. Mass media coverage of HIV issues, along with targeted trainings (including those focused on police) conducted by public health prevention programs like AFEW since 2005 may have contributed to relatively high levels of basic health knowledge observed here.

Similarly impressive are the modal positive attitudes of our respondents towards condom and syringe distribution. Substantial majorities reported disagreeing with statements articulating highly punitive actions like raids and social isolation of "deviant" populations—views that inform law enforcement and correctional policies in many post-Soviet countries to this day.⁴¹ Although the surveys were completed anonymously, it is possible that a social desirability bias was introduced because the entity conducting the research is a social service organization serving vulnerable groups. However, distinctly doctrinaire and unapologetic rhetoric advocating harsh treatment of sex workers and IDUs is deeply entrenched among police, government, and civic leaders in Central Asia and Eastern Europe. Even if our respondents presented attitudes they thought would reflect the socially desirable viewpoint, recognizing harm reduction and rights-based approaches as normative would be a positive sign.

A notable departure from these positive attitudinal findings is the data point on police referral of vulnerable groups to services: about 44% responded positively to this proposition, while about 20% reported actually engaging in this behavior. These findings echo previous research suggesting that police resist efforts to shift policing towards providing social or public health services.⁴² At the same time as police routinely bump up against limitations of their work in addressing overarching socio-structural challenges such as addiction and poverty, they generally resent fundamental changes to established self-image as enforcers and disciplinarians.⁴³ Nonetheless, those

26% of our respondents who felt positively disposed to referring vulnerable groups to services but had yet to act on their attitudes represent a population especially amenable to possible behavior change. Equipping police with knowledge and skills about evidence-based approaches towards most-at-risk populations may improve the impact of public health programs targeting these groups and overall community health.⁴⁴

In contrast to high levels of knowledge about HIV and relatively favorable attitudes toward harm reduction programming, however, our respondents demonstrated only marginal levels of knowledge on key policy and criminal procedure questions. Even though the more experienced police dominated our sample, anywhere from 29-46% gave incorrect responses on questions regarding legal provisions covering syringe possession and sex work. Even fewer, about 40%, had basic knowledge about Instruction 417. Considering that this policy intervention was designed to align policing and public health in the realm of HIV risk reduction, such poor penetration highlights major gaps in the dissemination of policy to law enforcement personnel. Unfortunately, such gaps have been well-documented in research on various areas of the law, including in settings that have much more robust rule of law, police management, and professionalization structures.⁴⁵ Our findings make clear that additional programmatic efforts are critical to educate and incentivize police to facilitate the implementation of the policy throughout the institutional structure.⁴⁶

In the occupational safety domain, this study identifies a gaping need for more education, resources, and further research. Although the lifetime prevalence of NSI in this sample is similar to other studies of police professionals, this rate is nonetheless quite elevated when compared to other professions that come into frequent contact with injection equipment.⁴⁷ The high levels of anxiety about this occupational hazard are especially alarming because of the observed extremely low levels of knowledge about how to respond to workplace exposure incidents.

Overall, this analysis reflects positively on the impact of Instruction 417. The order combined information about harm reduction programming and HIV with occupational safety information and specific actions calling for cooperation between law enforcement and public health activities targeting vulnerable groups. Our multivariate model suggests that basic aware-

ness of the Instruction is independently associated with phenomena this structural intervention was designed to promote. Specifically, Instruction knowledge is independently associated with positive police attitude towards condom distribution—a key public health prevention measure, especially among at-risk groups like SWs and IDUs. It is also independently associated with officer understanding that syringe access does not encourage drug use—a common misconception among police.⁴⁸ Since the content of the Instruction clarifies the contours of law related to sex work and drug use, it is reassuring to find that officer Instruction awareness is associated with correct knowledge of due process provisions related to SW detention. Legal knowledge does not always correspond to police practice, however, so additional research is needed to understand the relationship between the Instruction and actual police behavior.⁴⁹

These results should be understood in the context of limiting factors. Although we controlled for a number of key variables, associations emerging from our multivariate analyses may be related to collinearity with some other unobserved factors. Cross-sectional surveys have inherent limitations that make it impossible to observe temporal trends between exposure and outcome variables. As with all research using observational design and regression modeling techniques, causal relationships cannot be conclusively determined from our findings. Although Kyrgyzstan has a national network of prevention services targeting at-risk populations, these services are not equally distributed throughout the country. Given the geographical and seasonal complexity of coverage, it is not possible to decisively categorize sites as having or lacking access to such services—a factor that could potentially improve the analytical weight of items assessing police contact with harm reduction groups and police referral behavior. Conceptually, our results suggest that the younger, more junior officers and those in rural areas may not be informed about Instruction 417. Since it is the younger, more junior officers who generally conduct everyday enforcement, the impact of the Instruction on the street may be limited. Achieving behavior change is difficult in all areas of behavioral interventions; police individuals and institutions are especially resistant to change.⁵⁰ Nonetheless, the apparent penetration of knowledge, attitudes, and practices conducive to an

enabling environment for public health prevention among more senior staff could open an opportunity for communication and collaboration on the managerial level. These data were collected from a convenience sample, so they may not be generalizable to all Kyrgyz police. Controlling for additional unobserved factors, such as education level, may alter the analytical findings. Self-selection by respondents may have influenced overall findings; collecting basic demographic data on all potential respondents, as well as qualitative research, can help us further understand the diversity of viewpoints among Kyrgyz law enforcement officers.

CONCLUSION

Kyrgyzstan represents a useful case study of the feasibility, impact, and sustainability of law and law enforcement-oriented interventions at the interface of public health and human rights of vulnerable groups. Despite their symbolic importance and positive promise, such police-side interventions have lacked a cohesive vision and evaluation.⁵¹ This analysis applies a public health lens to structural efforts to reduce police abuse of vulnerable populations. Our findings suggest that policy approaches directed specifically at police institutions show promise in several key domains, but that poor dissemination may hamper their benefit. Given wide enforcement discretion among police, such interventions should be considered in a variety of policy, geographic, and governance settings.⁵²

Ultimately, evidence-based interventions shown to achieve better police-public health harmonization should be an integral part of public health efforts targeting vulnerable groups. These findings highlight the importance of understanding socio-cultural, institutional, and logistical challenges that are complicating the implementation of legal and law enforcement-focused programs aiming to shift the risk environment for vulnerable groups in the former Soviet Union and elsewhere. Improved alignment between criminal justice and public health efforts targeting vulnerable populations can not only improve individual and population-level health outcomes, but can serve as a mechanism for improvements in human rights, governance, and return on investment for resource-constrained societies.

ACKNOWLEDGMENTS

The authors are grateful to research participants and field staff of partner NGOs throughout Kyrgyzstan. Assistance of AFEW staff, especially Ulan Soronkulov, proved invaluable in the data collection process. Dr. Steffanie Strathdee provided invaluable feedback and support in the formulation of the findings. Funding for the data collection process was provided by the Open Society Foundations' Sexual Rights and Health and International Harm Reduction Development Programs. The opinions expressed are the authors' and do not reflect the opinions of The Open Society Foundations, their programs, or AFEW.

REFERENCES

1. S. Strathdee, T. Hallett, N. Bobrova et al., "HIV and the risk environment among people who inject drugs: Past, present, and projections for the future," *Lancet* 376/9737 (2010), pp. 268 - 284; UNAIDS and World Health Organization, *AIDS epidemic update: 2009* (Geneva: Joint United Nations Programme on HIV/AIDS, 2009).
2. Centers for Disease Control and Prevention, *HIV/AIDS surveillance report*. (Bethesda: CDC, 2009); UNAIDS and WHO (2009, see note 1).
3. Strathdee et al. (2010, see note 1); UNAIDS, *Criminalization of HIV transmission* (Geneva: UNAIDS, 2008); UNAIDS and WHO (2009, see note 1).
4. L. Berkman and I. Kawachi, "A historical framework for social epidemiology" in L. Berkman and I. Kawachi (eds), *Social Epidemiology* (New York: Oxford University Press, 2000), pp. 3-12; S. Galea, and D. Vlahov, "Social determinants and the health of drug users: Socioeconomic status, homelessness, and incarceration," *Public Health Reports* 117 (Supplement 1) (2002), pp. S135-S145; H. Graham, "Social determinants and their unequal distribution: Clarifying policy understandings," *Milbank Quarterly* 84(1) (2004), pp. 75-109; A. Irwin, N. Valentine, C. Brown et al., "The commission on social determinants of health: Tackling the social roots of health inequities," *PLoS Med* 3/6 (2006), p. e106; M. Kelly, J. Bonnefoy, A. Morgan, and F. Florenzano, "The development

- of the evidence base about the social determinants of health,” Commission on Social Determinants of Health (2006); M. Marmot, “Multilevel approaches to understanding social determinants,” in L. Berkman and I. Kawachi (eds), *Social Epidemiology* (New York: Oxford University Press, 2000), pp. 349-367; S. Strathdee, D. Patrick, C. Archibald et al., “Social determinants predict needle-sharing behaviour among injection drug users in Vancouver, Canada,” *Addiction* 92/10 (1997), pp. 1339-1347; S. Subramanian, P. Belli, and I. Kawachi, “The macroeconomic determinants of health,” *Annual Review of Public Health* 23 (2002), pp. 287-302.
5. S. Burris, K. Blankenship, M. Donoghoe et al., “Addressing the “risk environment” for injection drug users: The mysterious case of the missing cop,” *Milbank Q* 82/1 (2004), pp. 125-126; T. Rhodes, “The ‘risk environment’: A framework for understanding and reducing drug-related harm,” *International Journal of Drug Policy* 13/2 (2002), pp. 85-94.
 6. C. Harcourt, S. Egger, and B. Donovan, “Sex work and the law,” *Sexual Health* 2 (2005), pp. 121-128.
 7. Harcourt et al. (2005, see note 6); S. Law, “Commercial sex: Beyond decriminalization,” *California Law Review* 73 (2000), pp. 523-608; SWAN, *Arrest the violence: Human rights violations against sex workers in Central and Eastern Europe and Central Asia* (New York: Sex Workers’ Rights Advocacy Network, 2009).
 8. S. Gruskin and D. Tarantola, “HIV/AIDS and human rights revisited,” *Canadian HIV/AIDS Policy and Law Review* 6/1-2 (2001), pp. 24-29.
 9. S. Burris, D. Finucane, H. Gallagher, and J. Grace, “The legal strategies used in operating syringe exchange programs in the United States,” *American Journal of Public Health* 86/8 Pt 1 (1996), pp. 1161-1166.
 10. M. Pardasani, “HIV prevention and sex workers: An international lesson in empowerment,” *International Journal of Social Welfare* 14/2 (2005), pp. 116-126; T. Rhodes, “Violence, dignity and HIV vulnerability: Sex work in Serbia,” *Sociology of Health and Illness* 31/1 (2008), pp. 1-16; S. Strathdee, R. Lozada, G. Martinez et al., “Social and structural factors associated with HIV infection among female sex workers who inject drugs in the Mexico-US border region,” *PLoS ONE* 6/4 (2011).
 11. Human Rights Watch. *Unprotected: Sex, condoms and the human right to health* (New York: Human Rights Watch, 2004c); D. Werb, E. Wood, W. Small et al., “Effects of police confiscation of illicit drugs and syringes among injection drug users in Vancouver,” *International Journal of Drug Policy* 19/4 (2008), pp. 332-338.
 12. Burris et al. (2004, see note 5); Strathdee et al. (2010, see note 1); Strathdee et al. (2011, see note 10); United Nations Office on Drugs and Crime. *Reducing the adverse health consequences of drug abuse: A comprehensive approach*. (Vienna: UNODC, 2008); T. Volkman, R. Lozada, C. Anderson et al, “Factors associated with drug-related harms related to policing in Tijuana, Mexico,” *Harm Reduction J* 8/7 (2011).
 13. S. Burris, P. Lurie, M. Ng, “Harm reduction in the health care system: The legality of prescribing and dispensing syringes to drug users,” *Health Matrix* 11/1 (2001), pp. 5-64.
 14. S. Burris, L. Beletsky, C. Castagna et al, “Stopping an invisible epidemic: Legal issues in the provision of naloxone to prevent opioid overdose,” *Drexel Law Review* 1/2 (2009) pp. 273-340; J. Moreno, J. Licea, and C. Ajenjo, “Tackling HIV and drug addiction in Mexico,” *Lancet* 376/9737 (2010), pp. 11-12.
 15. Harcourt et al. (2005, see note 6); C. Harcourt J. O’Connor, S. Egger et al., “The decriminalisation of prostitution is associated with better coverage of health promotion programs for sex workers,” *Australian and New Zealand Journal of Public Health* 34/5 (2010), pp. 482-486.
 16. R. Bluthenthal, A. Kral, E. Erringer, and B. Edlin, “Drug paraphernalia laws and injection-related infectious disease risk among drug injectors,” *Journal of Drug Issues* 29/1 (1999), pp. 1-16; H. Cooper, L. Moore, S. Gruskin, and N. Krieger, “The impact of a police drug crackdown on drug injectors’ ability to

- practice harm reduction: A qualitative study,” *Social Science and Medicine* 61 (2005), pp. 673-684; C. Davis, S. Burris, D. Metzger et al., “Effects of an intensive street-level police intervention on syringe exchange program utilization: Philadelphia, Pennsylvania,” *American Journal of Public Health* 95 (2005), pp. 233-236; K. Shannon, T. Kerr, S. Allinott et al., “Social and structural violence and power relations in mitigating HIV risk of drug-using women in survival sex work,” *Social Science and Medicine* 66 (2008), pp. 911-921; W. Small, T. Kerr, J. Charette et al., “Impacts of intensified police activity on injection drug users: Evidence from an ethnographic investigation,” *Int J Drug Policy* 17 (2006), pp. 85-95; Werb et al. (see note 11); R. Booth, J. Kennedy, T. Brewster, and O. Semerik, “Drug injectors and dealers in Odessa, Ukraine,” *Journal of Psychoactive Drugs* 35/4 (2003), pp. 419-426; R. Booth, S. Mikulich-Gilbertson, J. Brewster et al., “Predictors of self-reported HIV infection among drug injectors in Ukraine,” *J Acquir Immune Defic Syndr* 35 (2003), pp. 82-88; R. Booth W. Lehman, S. Dvoryak et al., “Interventions with injection drug users in Ukraine,” *Addiction*, 104/11 (2009), pp.1864-1873; T. Rhodes, L. Mikhailova, A. Sarang et al., “Situational factors influencing drug injecting, risk reduction and syringe exchange in Togliatti City, Russian Federation: A qualitative study of micro risk environment,” *Social Science and Medicine* 57 (2002), pp. 39-54; T. Rhodes, L. Platt, A. Sarang et al., “Street policing, injecting drug use and harm reduction in a Russian city: A qualitative study of police perspectives,” *Journal of Urban Health* 83/5 (2006), pp. 911-925; T. Hammett, N. Bartlett, Y. Chen et al., “Law enforcement influences on HIV prevention for injection drug users: Observations from a cross-border project in China and Vietnam,” *International Journal of Drug Policy* 16 (2005), pp. 235-245; N. Fairbairn, K. Kaplan, K. Hayashi et al., “Reports of evidence planting by police among a community-based sample of injection drug users in Bangkok, Thailand,” *BMC International Health and Human Rights* 9/1 (2009), p. 24; E. Sarin, L. Samson, M. Sweat, and C. Beyrer, “Human rights abuses and suicidal ideation among male injecting drug users in Delhi, India,” *International Journal of Drug Policy* 22/2 (2011), pp. 161-166; R. Pollini, K. Brouwer, R. Lozada et al., “Syringe possession arrests are associated with receptive syringe sharing in two Mexico-US border cities,” *Addiction* 103/1 (2008), pp. 101-108; Volkman et al. (see note 12).
17. S. Strathdee, R. Lozada, R. Pollini et al., “Individual, social, and environmental influences associated with HIV infection among injection drug users in Tijuana, Mexico,” *JAIDS* 47/3 (2008), pp. 369-376; M. Tracy, T. Piper, D. Ompad et al., “Circumstances of witnessed drug overdose in New York City: Implications for intervention,” *Drug and Alcohol Dependence* 79/2 (2005), pp. 181-190.
18. N. Spicer, D. Bogdan, R. Brugha et al., “It’s risky to walk in the city with syringes’: Understanding access to HIV/AIDS services for injecting drug users in the former Soviet Union countries of Ukraine and Kyrgyzstan,” *Globalization and Health* 7/22 (2011).
19. R. Pollini et al. (see note 16); R. Ramos, J. Ferreira-Pinto, K. Brouwer et al., “A tale of two cities: Social and environmental influences shaping risk factors and protective behaviors in two Mexico-US border cities,” *Health and Place* 15/4 (2009), pp. 999-1005.
20. S. Burris, “From security to health,” in J. Woods and B. Dupont (eds), *Democracy and the governance of security* (Cambridge: Cambridge University Press), pp. 196-216. Burris et al. (2004, see note 5); T. Rhodes and M. Simic, “Transition and the HIV risk environment” *British Medical Journal* 331 (2005), pp. 220-223.
21. Strathdee et al. (2010, see note 1).
22. L. Jason, S. Pokorny, and M. Adams, “A randomized trial evaluating tobacco possession-use-purchase laws in the US,” *Social Science and Medicine* 67/11 (2008), pp. 1700-1707; T. Schmid, M. Pratt, and E. Howze, “Policy as intervention: Environmental and policy approaches to the prevention of cardiovascular disease,” *American Journal of Public Health* 85/9 (1995), pp. 1207-1211; D. Stokols, “Translating social ecological theory into guidelines for community health promotion,” *American Journal of Health Promotion* 10/4 (1996), pp. 282-298.
23. S. Burris, A. Wagenaar, J. Swanson et al, “Making the case for laws that improve health: A framework for public health law research,” *Milbank Quarterly*

88/2 (2010).

24. L. Beletsky, A. Agrawal, B. Moreau et al, "Police training to align law enforcement and HIV prevention: Preliminary evidence from the field," *American Journal of Public Health* 101/11 (2011a), pp. 2012-2015; L. Beletsky, L. Grau, E. White et al, "The roles of law, client race, and program visibility in shaping police interference with the operation of US syringe exchange programs," *Addiction* 106/2 (2011c), pp. 357-365.

25. L. Beletsky, G. Macalino, and S. Burris, "Attitudes of police officers towards syringe access, occupational needle-sticks, and drug use: A qualitative study of one city police department in the United States," *International Journal of Drug Policy* 16 (2005), pp. 267-274; L. Maher and D. Dixon, "Policing and public health: Law enforcement and harm minimization in a street-level drug market," *Brit J Criminol* 39/4 (1999), pp. 488-512.

26. Beletsky et al. (2011a, see note 23); L. Beletsky, L. Grau, E. White et al, "Content, correlates and predictors of police training initiatives by syringe exchange programs," *Drug and Alcohol Dependence* 19/1-2 (2011b), pp. 145-149; See, for example, Doe v. Bridgeport Police Department (2006); *Roe v. City of New York* (2002). 232 F. Supp. 2d (p. 240): S.D. N.Y.

27. B. Silverman, C. Davis, J. Graff et al, "Harmonizing disease prevention and police practice in the implementation of HIV prevention programs: Up-stream strategies from Wilmington, Delaware," *Harm Reduction J*, In Press; L. Beletsky et al. (2011a, see note 23); C. Davis and L. Beletsky, "Bundling occupational safety with harm reduction information as a feasible method for improving police receptiveness to syringe access programs: evidence from three U.S. cities," *Harm Reduction Journal* 6/16 (2009), pp. 1-18; K. DeBeck, E. Wood, R. Zhang et al, "Police and public health partnerships: Evidence from the evaluation of Vancouver's supervised injection facility," *Substance Abuse Treatment, Prevention, and Policy* 3/1 (2008), pp. 11; T. Green, "Police as frontline mental health workers: The decision to arrest or refer to mental health agencies," *International Journal of Law and Psychiatry* 20 (1997), pp. 469-486; M. Deane, H. Steadman, R.

Borum et al, "Emerging partnerships between mental health and law enforcement," *Psychiatr Serv* 50 (1999), pp. 99-101; E. Keram, "Commentary: A multidisciplinary approach to developing mental health training for law enforcement," *J Am Acad Psychiatry Law* 33 (2005), pp. 47-49; L. Teplin, "Criminalizing mental disorder: The comparative arrest rate of the mentally ill," *American Psychologist* 39 (1984), pp. 794-803; H. Vermette, D. Pinals, P. Appelbaum, "Mental health training for law enforcement professionals," *J Am Acad Psychiatry Law* 33 (2005), pp. 42-46; M. Compton, M. Esterberg, R. McGee et al, "Brief Reports: Crisis intervention team training: Changes in knowledge, attitudes, and stigma related to schizophrenia," *Psychiatr Serv* 57 (2006), pp. 1199-1202. R. Midford, J. Acres, and S. Lenton, "Cops, drugs and the community: Establishing consultative harm reduction structures in two Western Australian locations," *International Journal of Drug Policy* (2002), pp. 181.

28. Beletsky et al. (2011a, see note 23); Silverman et al. (In Press, see note 27); Strathdee, et al. (2011, see note 10).

29. UNAIDS and WHO (2009, see note 1).

30. Eurasian Harm Reduction Network, *Implementation of the political declaration and plan of action on international cooperation towards an integrated and balanced strategy to counter the world drug problem* (Vilnius: Eurasian Harm Reduction Network, 2011); A. Ismailova, N. Asibaliyeva, and Z. Haimbetova, *Findings of the 2010 behavioral surveillance survey among vulnerable groups in Kyrgyz Republic* (Bishkek: Kyrgyz AIDS Center, 2011); UNAIDS and WHO (2009, see note 1).

31. EHRN (see note 29); International Harm Reduction Development Program (IHRD), *The effects of drug user registration laws on people's rights and health* (New York: Open Society Institute, 2009).

32. Ibid.; Open Society Institute, *Drugs, AIDS and harm reduction: How to slow the HIV epidemic in Eastern Europe and the former Soviet Union* (2001); D. Wolfe and K. Malinowska-Sempruch, *Illicit drug policies and the global HIV epidemic: Effects of UN and national government approaches* (New York: Open Society Institute, 2004).

33. CIS News, "Kyrgyzstan takes an official course towards humanization of its policy towards drug users" (2009); EHRN (see note 29).
34. EHRN (see note 29).
35. E. Rogers, *Diffusion of innovations* (New York: City Publisher, 1995).
36. Rogers (1995, see note 35).
37. Beletsky et al. (2005, see note 24); L. Beletsky et al. (2011a, see note 23).
38. Beletsky et al. (2011a, see note 23).
39. S. Herbert, "Policing the contemporary city: Fixing broken windows or shoring up neo-liberalism" *Theoretical Criminology* 5/4 (2001), pp. 445-466; P. Manning, *Police work: The social organization of policing* (Cambridge: MIT Press, 1977); H. Pearce, "HIV/AIDS and police," *Journal of Security Sector Management* 6/1 (2008), pp. 2-17; J. Zhao, N. Lovrich, T. Robinson, "Community policing - Is it changing the basic functions of policing? Findings from a longitudinal study of 200+ municipal police agencies," *J Crim Just* 29 (2001), pp. 365-377.
40. Beletsky et al. (2011a, see note 23); Beletsky et al. (2005, see note 24).
41. HRW, *Lessons not learned: Human rights abuses and HIV/AIDS in the Russian Federation* (New York: Human Rights Watch, 2004a); HRW, *Not enough graves: The war on drugs, HIV/AIDS and violations of human rights* (New York: Human Rights Watch, 2004b); IHRD (see note 30); International Harm Reduction Development Program, *Unintended consequences: Drug policies fuel the HIV epidemic in Russia and Ukraine* (Open Society Institute, 2003).
42. Beletsky et al. (2005, see note 24)
43. Beletsky et al. (2005, see note 24); S. Herbert, "Morality in law enforcement: Chasing "bad guys" with the Los Angeles Police Department," *Law and Society Review* 30/4 (1996), pp. 799-818.
44. Beletsky et al. (2011a, see note 23); Beletsky et al. (2011c see note 23); Beletsky et al. (2005, see note 24).
45. Beletsky et al. (2011a, see note 23); Beletsky et al. (2005, see note 24); Burris et al. (2010 see note 23); HRW, *Abusing the user: Police misconduct, harm reduction and HIV/AIDS* (Vancouver, New York: Human Rights Watch, 2003), Vol 15, No. 2(B); HRW, *Targeting blacks: Drug law enforcement and race in the United States* (New York: Human Rights Watch, 2008); L. Beletsky, G. Martinez, T. Gaines et al., "Mexico's northern border conflict: Collateral damage to health and human rights of vulnerable groups," *Pan American Journal of Public Health* (in press).
46. Ibid.
47. Beletsky et al. (2011a, see note 23); Beletsky et al. (2005, see note 24); Silverman (see note 27).
48. Beletsky et al. (2011a, see note 23); J. Lorentz, L. Hill, and B. Samimi, "Occupational needlestick injuries in a metropolitan police force," *Am J Prev Med* 18/2 (2000), pp. 146-150.
49. *Doe v. Bridgeport Police Department* (2006); *Roe v. City of New York* (2002). 232 F. Supp. 2d (p. 240): S.D. N.Y., Beletsky et al IJDP 2005.
50. F. Aboud, "Virtual special issue introduction: Health behaviour change," *Social Science and Medicine* 71/11 (2010), pp. 1897-1900; Jason et al. (see note 22).
51. Burris et al. (2004, see note 5); Beletsky et al. (2011a, see note 24); Beletsky et al. (2011b, see note 26); C. Davis and L. Beletsky (2009, see note 27); L. Beletsky and R. Heimer, "Aligning Criminal Justice and HIV Prevention: From Conflict to Synergy," Yale Center for Interdisciplinary Research on AIDS (2009).
52. Beletsky et al. (2011a, see note 23); Beletsky et al. (2011b see note 25); L. Beletsky et al. (2005, see note 24); L. Beletsky et al. (in press, see note 45).