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**Article — Published Version**

## HIV testing in re-education through labour camps in Guangxi Autonomous Region, China (a cross-sectional survey)

Sexually Transmitted Infections

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*Suggested Citation:* Yap, Lorraine et al. (2015) : HIV testing in re-education through labour camps in Guangxi Autonomous Region, China (a cross-sectional survey), Sexually Transmitted Infections, ISSN 1472-3263, BMJ Publishing Group, London, Vol. 91, Iss. 4, pp. 401-406, <https://doi.org/10.1136/sextrans-2014-051658>

This Version is available at:

<https://hdl.handle.net/10419/231995>

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## ORIGINAL ARTICLE

# HIV testing in re-education through labour camps in Guangxi Autonomous Region, China (a cross-sectional survey)

Lorraine Yap,<sup>1</sup> Joanne Reekie,<sup>1</sup> Wei Liu,<sup>2</sup> Yi Chen,<sup>2</sup> Zunyou Wu,<sup>3</sup> Jianghong Li,<sup>4,5</sup> Lei Zhang,<sup>1,7</sup> Handan Wand,<sup>1</sup> Basil Donovan,<sup>1,6</sup> Tony Butler<sup>1</sup>

<sup>1</sup>The Kirby Institute, University of New South Wales, Sydney, Australia

<sup>2</sup>Division of HIV/AIDS Prevention and Control, Guangxi Center for Disease Control and Prevention, Nanning, China

<sup>3</sup>National Center for AIDS/STD Control and Prevention, Chinese Center for Disease Control and Prevention (China CDC), Beijing, China

<sup>4</sup>President's Research Project Group, WZB Berlin Social Research Center, Berlin, Germany

<sup>5</sup>The Centre for Population Health Research, Curtin University, Perth, Australia

<sup>6</sup>Sydney Sexual Health Centre, Sydney Hospital, Sydney, Australia

<sup>7</sup>Research Center for Public Health, School of Medicine, Tsinghua University, Beijing, China

## Correspondence to

Drs Lorraine Yap and Lei Zhang, The Kirby Institute, University of New South Wales, Sydney NSW 2052, Australia; l.yap@unsw.edu.au; lzhang@kirby.unsw.edu.au

Received 1 May 2014

Revised 13 January 2015

Accepted 19 January 2015

Published Online First

4 March 2015



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**To cite:** Yap L, Reekie J, Liu W, et al. *Sex Transm Infect* 2015;**91**:401–406.

## ABSTRACT

**Objective** HIV testing is mandatory in re-education-through-labour camps (*laojiaosuo*) in China yet no studies have reported on the process.

**Methods** The survey response rate was 100% although 29 detainees were excluded because they were under 18 years of age. A cross-sectional face-to-face survey was conducted in three labour camps in Guangxi, located in the south-western region of China.

**Results** Of the 755 detainees surveyed, 725 (96%) reported having a blood test in the labour camps of whom 493 (68%) thought this included an HIV test. 61 detainees self-reported they were HIV infected, their status confirmed by medical records, if available. Of these, 53 (87%) recalled receiving post-test HIV education, and 15 (25%) were currently receiving HIV antiretroviral therapy. Pretest education on HIV was provided to 233/725 (32%) detainees. The study further reports on detainees' reactions and feelings towards non-disclosure and disclosure of their HIV test results in the labour camps.

**Conclusions** Mandatory testing is almost universal in the labour camps although a proportion of detainees were unaware that this included an HIV test. HIV test results should be disclosed to all labour camp detainees to reduce their distress of not knowing and prevent misconceptions about their HIV status. Labour camps provide another opportunity to implement universal treatment ('Test and Treat') to prevent the spread of HIV.

## INTRODUCTION

HIV testing and counselling are important in identifying those exposed to HIV and providing care for those infected. A systematic review indicated that voluntary HIV testing and education in low- and middle-income countries is an effective strategy in decreasing HIV-related risk by reducing the number of sexual partners among HIV-infected individuals and increasing condom use and other protective sex behaviours.<sup>1</sup> Among injecting drug users (IDUs) in southern China, voluntary HIV testing has been shown to reduce sharing of injecting equipment.<sup>2</sup>

HIV testing in the general community in China is mostly undertaken on a voluntary basis but those held in re-education-through-labour camps (*laojiaosuo*; hereafter 'labour camps') undergo mandatory testing for HIV after entering the labour camps.<sup>3</sup> Established in 1955, labour camps were created to suppress and detain counter revolutionaries, but

nowadays they have other purposes including: 'crime control, political control, investigative detention and drug rehabilitation'.<sup>4</sup>

In addition to labour camps, two other types of detention facilities exist in China: (1) *jiedusuo*—mandatory or compulsory detoxification treatment centres which detain individuals convicted for drug use and drug possession and (2) *laogaisuo* or reform through labour—which includes prisons and prison farms which detain those who have committed serious crimes such as homicide and political corruption.<sup>3</sup>

Labour camps (*laojiaosuo*) contain a mix of drug users and non-drug users, mostly imprisoned for minor crimes such as petty theft, gambling, sex work, illicit drug use, drug dealing, and religious or political dissent. In 2008, 160 000 individuals were reportedly held in 350 labour camps throughout China.<sup>4–6</sup> Some labour camps are set up exclusively as compulsory drug treatment centres and are administered by the Ministry of Justice.<sup>4</sup> In 2008, laws were passed in China to reform drug treatment and rehabilitation, in effect, eliminating compulsory detoxification centres and re-education-through-labour camps and incorporating both into the so-called 'isolated compulsory drug rehabilitation' or compulsory isolation centres.<sup>7</sup> During the study, 're-education-through-labour camps' were officially known also as 'isolated compulsory drug rehabilitation centres'; both names were used interchangeably by Chinese officials in the Guangxi Autonomous Region during the transition period, the latter used solely after 2013.

Qualitative research has shown that some detainees who were tested for HIV in labour camps never received their test results and that former detainees had tried unsuccessfully to obtain information about their HIV serostatus while incarcerated.<sup>8</sup> The same study also found that labour camp staff sometimes failed to inform detainees of their test results to avoid 'chaos' in the camp and expectations of 'high demand on services'.<sup>8</sup>

Despite many years of HIV mandatory testing, little is known about the circumstances surrounding HIV testing in labour camps.<sup>9</sup> This study reports on HIV testing practices in labour camps collected as part of a larger survey of the health of labour camp detainees in Guangxi Autonomous Region, located in the south-western corner of China.<sup>10</sup> We collected information on: (a) self-reported HIV testing; (b) disclosure of test results to detainees by staff; (c) pretest and post-test HIV/AIDS education

provision; (d) detainees' perceptions of the disclosure or non-disclosure of their test results; and (e) access to antiretroviral therapy (ART) treatment.

## METHODS

The survey response rate was 100% although 29 detainees were excluded because they were under 18 years of age.<sup>10</sup> The study was conducted in March 2011. Following discussions with the Provincial Center for Disease Control and the Re-education-Through-Labour Administration Bureau which is responsible for the overall administration of the labour camps, three out of seven separate labour camps (two men and one woman) in the region agreed to participate in the study.

In each labour camp, detainees were housed in shared rooms and dormitories in multi-storied accommodation blocks. These accommodation blocks were randomly selected and all men and women aged 18 years and over and living in the selected blocks were invited to participate in the study. In each labour camp, most HIV-positive detainees were accommodated in a separate facility so that ART could be delivered more efficiently by medical staff and to protect HIV-negative detainees. The overall prevalence of HIV within the labour camps, published elsewhere, was estimated to be 2.19%.<sup>10</sup> HIV prevalence was higher among women (4.63%) than men (1.71%) ( $p < 0.0001$ ).<sup>10</sup> As per the study design described in detail elsewhere,<sup>10</sup> most HIV-positive detainees in the labour camps were included in our survey. A small monetary incentive was provided to participants.

Using a questionnaire, face-to-face interviews were conducted by medical students with detainees in camp sports grounds, factories inside the camps and just outside the gates of the labour camps. No labour camp staff was present during the interviews.

The questionnaire was translated into Mandarin and back-translated several times by staff at the Provincial Center for Disease Control (Guangxi CDC) to eliminate ambiguity in the questions and responses. The questionnaire was pilot tested among 10 former and current labour camp detainees prior to use. The questionnaire covered: socio-demographic characteristics; sexually transmissible infection and HIV transmission; HIV testing history; sexual and drug use behaviours; health service usage; and access inside the labour camp.<sup>8</sup>

Participants were required to provide written consent before they could participate in the study which detailed: the selection of subjects, the purpose of the study, any risks that may be involved in participating, that any information collected by the study would remain confidential, and that their decision to participate or not would not affect their future treatment in the labour camp.<sup>10</sup>

## Analysis

Statistical analysis was conducted using SPSS V21. In table 2, we deliberately excluded detainees who had previously been tested and diagnosed with HIV outside the labour camps to accurately reflect detainees' reactions postdisclosure of their HIV-positive status for the first time in the labour camps. Detainees were asked open ended questions in the form of text in the survey on how they felt about disclosure (or not) of their test results while in the labour camps. We categorised detainees' reaction as 'positive', 'negative' and 'neutral'. Sensitivity, specificity and positive predictive value of the indicators were determined with  $\kappa$  statistics.

## Ethics

Ethics approval was obtained from the Human Research Ethics Committees at the National Center for AIDS/STD Control and Prevention, Chinese Center for Disease Control and Prevention

(China CDC), and the University of New South Wales (UNSW Human Research Ethics Committee (HREC) 9125). Permission was also granted to conduct the study from the Provincial Center for Disease Control and the Re-education-Through-Labour Administration. The approval for the use of medical records to validate self-reported HIV status (UNSW HREC9125) was later obtained from the University of New South Wales HREC committee as this was not included in the original application. The UNSW HREC requested details on following up all participants to inform them of their test results from their medical records. However, 1 year had elapsed since the study had finished and following up all participants to advise them of their HIV test results from their medical records would have been difficult as some detainees would have been released into the community and others transferred to other labour camps. The HREC committee permitted researchers to use the additional information since it was essential in validating the analysis of the data and deliberated that it would be of greater benefit to detainees in the longer term.

## RESULTS

### Socio-demographics

Out of a total of 3290 detainees in three labour camps during the survey period, in total, 755 (23%) detainees participated in the survey: 576 (76%) men and 179 (24%) women. The majority of detainees surveyed were aged between 21 and 40 years (78%), of Han ethnicity (64%), had completed at least junior middle school (46%) and around half had never married (46%) (table 1). For most participants (73%), it was their first time in a labour camp, with the vast majority having spent a total of less than 2 years incarcerated (79%), mainly for drug-related offences (76%) (table 1).

### Self-reported HIV testing rates

Of the 755 detainees surveyed, 725 (96%) reported they had taken a blood test while in the labour camps. However, 232 (32%) detainees either believed their blood test did not include or were unsure if an HIV test was included (table 1). For those who received their test results, they were mostly disclosed to detainees by a labour camp doctor ( $n=114$ , 72%), other labour camp staff ( $n=30$ , 19%) or through other means ( $n=9$ , 6%), with five missing (table 1).

In the labour camps, 277/755 detainees reported they had previously been tested for HIV outside labour camps, corresponding to a testing rate of 37% (95% CI 31 to 42%). Of those tested in the community, (114/277) 41% were conducted at a hospital, (33/277) 12% in the compulsory detoxification centre and 46% (128/277) in other settings. HIV prevalence among those reporting they had been tested in the community was 9% (95% CI 4% to 14%) (table 1).

### Medical record validation of HIV self-report

Of the 755 detainees, we were able to confirm the self-reported HIV status of 429 detainees by examining their available medical records. Overall, we found a high degree of concordance between the available HIV test result from the medical record and the self-reported HIV status ( $\kappa=0.92$ ,  $p < 0.0001$ ). HIV test results were available from medical records for 97% (174/179) women and 44% (255/576) for men. For women, all medical records HIV test results matched their self-reported HIV status ( $\kappa=1.00$ ,  $p < 0.0001$ ). Among the male detainees, 44% (255/576) HIV test were results available; only eight detainees had discordant results whereby their HIV results did not match their self-reported HIV status (89% sensitivity, 98%

**Table 1** HIV testing and counselling inside and outside labour camps

		Men (N=576)	Per cent*	Women (N=179)	Per cent*	Total (N=755)	Per cent*
<b>Socio-demographics</b>							
Age group	18–20 years	23/576	(4)	2/179	(1.1)	25/755	(3.3)
	21–30	214/576	(37.2)	62/179	(34.6)	276/755	(36.6)
	31–40	235/576	(40.8)	77/179	(43)	312/755	(41.3)
	>40 years	104/576	(18.1)	38/179	(21.2)	142/755	(18.8)
Marital status	Single (never married)	282/576	(49)	68/179	(38)	350/755	(46.4)
	Married/cohabiting	236/576	(41)	79/179	(44.1)	315/755	(41.7)
	Divorced/separated/widowed	57/576	(9.9)	32/179	(17.9)	89/755	(11.8)
	Missing	1/576	(0.2)	0/179	(0)	1/755	(0.1)
Ethnicity	Han	372/576	(64.6)	112/179	(62.6)	484/755	(64.1)
	Zhuang	191/576	(33.2)	56/179	(31.3)	247/755	(32.7)
	Other	13/576	(2.3)	11/179	(6.1)	24/755	(3.2)
Education	Semiliterate/incomplete primary	67/576	(11.6)	37/179	(20.7)	104/755	(13.8)
	Primary school	151/576	(26.2)	48/179	(26.8)	199/755	(26.4)
	Junior middle school	269/576	(46.7)	81/179	(45.3)	350/755	(46.4)
	Middle school/technical secondary	61/576	(10.6)	12/179	(6.7)	73/755	(9.7)
	College/university	28/576	(4.9)	1/179	(0.6)	29/755	(3.8)
Employment	Not employed	279/576	(48.4)	105/179	(58.7)	384/755	(50.9)
Number of times in a labour camp	First time	418/576	(72.6)	129/179	(72.1)	547/755	(72.5)
	2–5 times	157/576	(27.3)	50/179	(27.9)	207/755	(27.4)
	6 times or more	1/576	(0.2)	0/179	(0)	1/755	(0.1)
Total time (all stints inside labour camps)	<6 months	171/576	(29.7)	32/179	(17.9)	203/755	(26.9)
	6–12 months	120/576	(20.8)	59/179	(33)	179/755	(23.7)
	1–2 years	171/576	(29.7)	46/179	(25.7)	217/755	(28.7)
	2 years or more	112/576	(19.4)	42/179	(23.5)	154/755	(20.4)
	Missing	2/576	(0.3)	0/179	(0)	2/755	(0.3)
Current offence	Drug related	425/576	(73.8)	147/179	(82.1)	572/755	(75.8)
	Sex work	0/576	(0)	29/179	(16.2)	29/755	(3.8)
	Theft	41/576	(7.1)	0/179	(0)	41/755	(5.4)
	Fraud	85/576	(14.8)	2/179	(1.1)	87/755	(11.5)
	Other	25/576	(4.3)	1/179	(0.6)	26/755	(3.4)
Ever used drugs in the community	Yes	433/576	(75.2)	149/179	(83.2)	582/755	(77.1)
Ever injected in the community	Yes	340/576	(59)	129/179	(72.1)	469/755	(62.1)
<b>HIV testing both inside and outside labour camps</b>							
Ever had an HIV test outside the labour camps?	Yes	189/576	(32.8)	88/179	(49.2)	277/755	(36.7)
What was the result of the HIV test?	HIV positive	15/189	(7.9)	10/88	(11.4)	25/277	(9)
	HIV negative	130/189	(68.8)	72/88	(81.8)	202/277	(72.9)
	Don't know	43/189	(22.8)	6/88	(6.8)	49/277	(17.7)
	Missing	1/189	(0.5)	0/88	(0)	1/277	(0.4)
If HIV positive, ever had a blood test in the labour camps?	Yes	15/15	(100)	10/10	(100)	25/25	(100)
Ever told the results?	Yes	8/15	(53.3)	10/10	(100)	18/25	(72)
What is the result of your blood test?	HIV positive	8/8	(100)	10/10	(100)	18/18	(100)
Currently on HIV antiretroviral therapy (ART)?	Yes	1/8	(12.5)	5/10	(50)	6/18	(33.3)
If HIV negative, ever had a blood test in the labour camps?	Yes	123/130	(94.6)	72/72	(100)	195/202	(96.5)
Ever told the results?	Yes	24/123	(19.5)	30/72	(41.7)	54/195	(27.7)
What is the result of your blood test?	HIV positive	2/24	(8.3)	3/30	(10)	5/54	(9.3)
Currently on HIV ART?	Yes	0/24	(0)	1/3	(33.3)	1/27	(3.7)
If don't know, ever had a blood test in the labour camps?	Yes	41/43	(95.3)	6/6	(100)	47/49	(95.9)
Ever told the results?	Yes	7/41	(17.1)	3/7	(42.9)	10/48	(20.8)
What is the result of your blood test?	HIV positive	5/7	(71.4)	2/3	(66.7)	7/10	(70)
Currently on HIV ART?	Yes	1/5	(20)	1/3	(3.3)	2/8	(25)
Where did you have the HIV test?	Hospital	81/189	(42.9)	33/88	(37.5)	114/277	(41.2)
	Compulsory detoxification	27/189	(14.3)	6/88	(6.8)	33/277	(11.9)
	Other	79/189	(41.8)	49/88	(55.7)	128/277	(46.2)
	Missing	2/189	(1.1)	0/88	(0)	2/277	(0.7)
<b>HIV testing and counselling inside labour camps</b>							
Ever had a blood test in the labour camps?	Yes	550/576	(95.5)	175/179	(97.8)	725/755	(96)
Did the blood test include an HIV test?	Yes	337/550	(61.3)	156/175	(89.1)	493/725	(68)
	No	41/550	(7.5)	2/175	(1.1)	43/725	(5.9)

Continued

Table 1 Continued

		Men (N=576)	Per cent*	Women (N=179)	Per cent*	Total (N=755)	Per cent*
Did you receive information on HIV/AIDS before you had the blood test?	Don't know/unsure	172/550	(31.3)	17/175	(9.7)	189/725	(26.1)
	Yes	159/550	(28.9)	74/175	(42.3)	233/725	(32.1)
Were you told the results after having the blood test?	Yes	85/550	(15.5)	73/175	(41.7)	158/725	(21.8)
Who told you the results?	Labour camp doctor	54/85	(63.5)	60/73	(82.2)	114/158	(72.2)
	Labour camp staff	18/85	(21.2)	12/73	(16.4)	30/158	(19)
	Others	9/85	(10.6)	0/73	(0)	9/158	(5.7)
	Missing	4/85	(4.7)	1/73	(1.4)	5/158	(3.2)
What were the results of your blood test in the labour camps?	HIV positive	36/85	(42.4)	25/73	(34.2)	61/158	(38.6)
	HIV negative	47/85	(55.3)	47/73	(64.4)	94/158	(59.5)
	Missing	2/85	(2.4)	1/73	(1.4)	3/158	(1.9)
Were you provided with information on how you can prevent infecting other people with HIV?	Yes	29/36	(80.6)	24/25	(96)	53/61	(86.9)
Are you receiving HIV ART?	Yes	6/36	(16.7)	9/25	(36)	15/61	(24.6)

\*Percentages may be greater or lesser than 100% due to rounding.

specificity, positive predictive value 89%, negative predictive value 98%,  $\kappa=0.87$ ,  $p<0.0001$ ).

Of the 725 detainees who reported being tested in the labour camps, 61 detainees self-reported HIV positive, corresponding to a prevalence of 39% (95% CI 27% to 50%). We were able to confirm that 52 (85%) self-reports matched their medical records, whereas one had a discordant result, and eight medical records were missing. Of the 94 detainees who self-reported HIV negative, we were able to confirm that 67 (71%) were HIV negative from their medical records, one had a discordant result, while 26 medical records were unavailable. Of the 567 detainees whose HIV results were never disclosed to them, seven men were confirmed to be HIV positive from their medical records; of these, three men were unaware of their HIV status.

### Pretest HIV education provision

Of the 725 detainees who had had a blood test, 233 (32%, 95% CI 27% to 37%) reported they received information on HIV/AIDS before being tested in the labour camps (table 1).

### Post-test HIV education provision

Among the 61 who self-reported they were HIV positive, 53 (87%, 95% CI 74% to 100%) recalled receiving post-test HIV education (table 1).

### Disclosure and reactions to HIV test results

Out of 725 detainees tested, 700 had not been diagnosed with an HIV infection prior to entering the labour camps. Of these, 560 (80%) could not recall the HIV result being disclosed to them (tables 1 & 2). Detainees' perceptions of non-disclosure of results were: 160 (29%) 'positive' since many assumed that it meant they were not infected; 90 (16%) 'negative' since they wanted to know their results or they felt afraid, upset and panicky over not being told and were frustrated there was nothing they could do about it; 277 (50%) were 'neutral' including those who did not care; with other responses difficult to interpret or missing (6%) (table 2).

Of the 137 detainees whose results were disclosed to them in the labour camps, 94 were told they were HIV negative and 43 were HIV positive; three did not disclose their HIV test results to the researchers (tables 1 and 2). Of the 94 detainees who reported they were HIV negative, 71% felt 'positive' and were relieved they were uninfected and 27% were neutral—they did not care; none reported feeling 'negative' (table 2).

Of the 43 detainees who reported they were HIV positive, 2% had accepted their diagnosis at disclosure, 21% were neutral—there was nothing special about the disclosure, while 72% were negative—detainees reported being upset, worried, sad, panicked and shocked at the disclosure (table 2).

### ART provision

Overall, 17% (6/36) men and 36% (9/25) women reported they were receiving ART for HIV (table 1). Of these, six had a previous HIV-positive diagnosis outside the labour camps, one had an HIV-negative diagnosis and another revealed not knowing her result when tested outside (table 1). Treatment eligibility, in accordance with Ministry of Health policy, was restricted to those based on their CD4 cell count levels.

### DISCUSSION

In this study, 725 (96%) labour camp detainees reported having a blood test in the labour camps with most reporting never being told their results in the labour camps (78%) and just over two-thirds aware that the test had included an HIV test. Those detainees who reported being diagnosed as HIV positive in the labour camp were advised of their test results by a labour camp doctor or staff. Failure to be informed of the result caused distress for around a fifth of detainees (16%) while for some, the lack of a test result was assumed to mean that the HIV test was negative. A small proportion took the lack of information as a sign they were HIV infected.

The United Nations Office on Drugs and Crime (UNODC) and WHO recommend 'easy access to voluntary HIV testing and counselling programmes at any time during their detention' and that 'all forms of coercion must be avoided and testing must always be done with informed consent, pre-test information, post-test counselling, protection of confidentiality and access to services that include appropriate follow-up, antiretroviral therapy and other treatment as needed' (p. 3).<sup>11</sup> Test results should be communicated to prisoners by health personnel who should ensure medical confidentiality.<sup>12</sup> HIV testing is currently mandatory among detainees incarcerated in labour camps in China.<sup>3</sup> UNODC and WHO further recommend that the provision of condoms and clean needles and syringes and access to evidence-based dependence treatments and other harm reduction interventions should also be available to prisoners.<sup>11</sup> However, this does not occur in many countries.

**Table 2** Detainees' reactions to non-disclosure and disclosure of their HIV test results in the re-education-through-labour camps

		Men	Per cent	Women	Per cent	Total	Per cent
<b>Total detainees who had blood tests (excludes detainees who were diagnosed HIV positive outside of labour camps)</b>		<b>535</b>	<b>76.4</b>	<b>165</b>	<b>23.6</b>	<b>700</b>	<b>100.0</b>
<b>NEVER TOLD</b>	<b>How did you feel about never being told your blood test results?</b>	<b>458</b>	<b>81.8</b>	<b>102</b>	<b>18.2</b>	<b>560</b>	<b>80.0</b>
<b>Positive</b>	Happy/happy not told/it means I am not infected/calm/okay/not worried/relaxed/means I am in good physical health	117	25.5	43	42.2	160	28.6
<b>Negative</b>	I want to know my results/will take another HIV test after leaving labour camp	80	17.5	10	9.8	90	16.1
	Afraid/scared/terrified/panicked/confused/nervous/discontented/unhappy/upset/worried/uncomfortable/annoyed/unfair/unreasonable						
	Can't do anything about it/fate/life goes on						
	Don't know if infected						
	Don't want to think about it						
<b>Neutral</b>	Normal/no special feelings/I don't care/feel nothing/I don't want to know the results/not worried/not important/okay/not finished analysing blood tests/understandable	230	50.2	47	46.1	277	49.5
<b>Other/missing</b>		31	6.8	2	2.0	33	5.9
<b>TOLD RESULTS</b>	<b>But not reported to researchers</b>	<b>2</b>	<b>66.7</b>	<b>1</b>	<b>33.3</b>	<b>3</b>	<b>0.4</b>
<b>TOLD HIV NEGATIVE</b>	<b>What was your first reaction to your negative result?</b>	<b>47</b>	<b>50.0</b>	<b>47</b>	<b>50.0</b>	<b>94</b>	<b>13.4</b>
<b>Positive</b>	Happy/feel comfortable/at least not infected/relaxed/calm/relieved	28	59.6	39	83.0	67	71.3
<b>Neutral</b>	Normal/nothing special/don't care/as expected	18	38.3	7	14.9	25	26.6
<b>Other/missing</b>		1	2.1	1	2.1	2	2.1
<b>TOLD HIV POSITIVE</b>	<b>What was your first reaction to your positive result?</b>	<b>28</b>	<b>65.1</b>	<b>15</b>	<b>34.9</b>	<b>43</b>	<b>6.1</b>
<b>Positive</b>	I can accept it	0	0.0	1	6.7	1	2.3
<b>Negative</b>	Upset/worried/surprised/hard to accept/disturbed/panic/sad/shocked	19	67.9	12	80.0	31	72.1
<b>Neutral</b>	Nothing special/I already knew the results	7	25.0	2	13.3	9	20.9
<b>Other/missing</b>		2	7.1	0	0.0	2	4.7
	<b>How do you feel now?</b>	<b>28</b>		<b>15</b>		<b>43</b>	
<b>Positive</b>	Good/feel better/optimistic/calm/I have accepted it/not important anymore	7	25.0	4	26.7	11	25.6
<b>Negative</b>	Upset/worried/feel numb/sad/have to face the truth	7	25.0	6	40.0	13	30.2
<b>Neutral</b>	Normal/nothing special/don't care/no special feelings	8	28.6	5	33.3	13	30.2
<b>Other/missing</b>		6	21.4	0	0.0	6	14.0

A review of detainees' medical records and self-reported HIV status indicated that some detainees had discordant results. One detainee confirmed as HIV positive through medical records was told he was HIV negative; another confirmed HIV negative was told he was HIV positive; and seven were not told but were confirmed HIV positive from their medical records, of these, three men were unaware of their HIV status. The discordant results may or may not be due to a reporting error in the data to the researchers but medical records showed that individuals tested as HIV positive were subject to additional confirmatory HIV tests. If accurate, labour camps may need to improve their accountability and disclosing the correct results to detainees.

In the labour camps, HIV testing is linked to HIV prevention, treatment, care and support. ART was restricted to those HIV-infected detainees who were eligible based on their CD4 cell count levels and in accordance with the China Ministry of Health HIV treatment guidelines. Nevertheless, labour camps present an opportunity to screen at-risk populations (62% were IDUs) and implement treatment,<sup>13</sup> and is consistent with calls for universal access to HIV treatment for detainees<sup>14</sup> and the 'humanitarianism' principle espoused by representatives of the World Bank and Global Fund.<sup>15</sup>

A limitation of this study is that only three of seven labour camps agreed to participate in the survey which raises the possibility that the sample could have been biased toward labour camps with better processes and procedures. Furthermore, respondents could have provided socially desirable responses despite assurances that they would not face any negative consequences if they did not wish to participate in the study or answer particular questions.

## CONCLUSIONS

Mandatory HIV testing is compulsory for those in labour camps in China although a proportion of detainees reported they were unaware that they were being tested for HIV. HIV test results should be disclosed to all labour camp detainees in accordance with international guidelines to reduce the distress among detainees of not knowing their results and to prevent misconceptions about their HIV status. Furthermore, labour camps may need to improve their accountability and disclosing the correct results to detainees. Labour camps provide another opportunity to implement universal 'test and treat' guidelines to prevent the spread of HIV.

### Key messages

- ▶ HIV testing is mandatory in re-education-through-labour camps yet no studies have reported on how many are tested and how results are disclosed and if HIV/AIDS information and education are delivered to detainees.
- ▶ In re-education-through-labour camps in China, most detainees (78%) are never told their HIV results.
- ▶ Antiretroviral therapy was provided to 25% of HIV-infected detainees; labour camps are another opportunity to implement universal treatment to prevent the spread of HIV.

**Handling editor** Jackie A Cassell

**Acknowledgements** This project was supported by the Chinese Government HIV/AIDS Program (#131-11-0001-0501) and funded by AusAID as part of the

Australian Development Research Award (ADRA) (#49528). The study funders had no involvement in the study design, analysis, and interpretation of the findings or writing of this report. Tony Butler is supported by an ARC Future Fellowship (#FT0991864). We are grateful to the various government organisations who made this study possible and to the detainees who participated in this study.

**Contributors** Substantial contributions to the conception or design of the work: LY, ZW, BD, TB, WL, YC and JL. Acquisition of data: WL and YC. Analysis and interpretation of the data: LY, BD, JR, TB, LZ and HW. Revising the work critically for important intellectual content: LY, ZW, TB, BD, JL, HW and LZ.

**Funding** Australian Development Research Award (ADRA) (#49528).

**Disclaimer** The opinions expressed herein reflect the collective views of the coauthors and do not necessarily represent the official position of the National Center for AIDS/STD Control and Prevention, Chinese Center for Diseases Control and Prevention, or the funding agency, AusAID.

**Competing interests** Three of the coauthors are connected with the National or Provincial Center for Disease Control (CDC), China Ministry of Health.

**Patient consent** Obtained.

**Ethics approval** Human Research Ethics Committees at the National Center for AIDS/STD Control and Prevention, Chinese Center for Disease Control and Prevention (China CDC), and the University of New South Wales (UNSW HREC9125).

**Provenance and peer review** Not commissioned; externally peer reviewed.

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## REFERENCES

- 1 Fonner VA, Denison J, Kennedy CE, *et al*. Voluntary counseling and testing (VCT) for changing HIV-related risk behavior in developing countries. *Cochrane Database Syst Rev* 2012;9:CD001224.
- 2 Chen HT, Liang S, Liao Q, *et al*. HIV voluntary counseling and testing among injection drug users in south China: a study of a non-government organization based program. *AIDS Behav* 2007;11:778–88.
- 3 Jürgens R. *HIV testing and counselling in prisons and other closed settings*. Technical Paper. New York, USA: United Nations Office on Drug and Crime (UNODC) with UNAIDS and the World Health Organization (WHO). 2009. [https://www.unodc.org/documents/hiv-aids/Final\\_UNODC\\_WHO\\_UNAIDS\\_technical\\_paper\\_2009\\_TC\\_prison\\_ebook.pdf](https://www.unodc.org/documents/hiv-aids/Final_UNODC_WHO_UNAIDS_technical_paper_2009_TC_prison_ebook.pdf) (accessed 13 Aug 2013).
- 4 Fu H. Re-education through labour in historical perspective. *China Q* 2005;184:811–30.
- 5 Zhang L, Liu J, Huang K. The role of criminal justice system in treating drug abusers: the Chinese experience. *J Subst Abuse Treat* 2011;41:45–54.
- 6 China to reform re-education through labor system. 2013. [http://www.chinadaily.com.cn/china/2013-01/07/content\\_16092600.htm](http://www.chinadaily.com.cn/china/2013-01/07/content_16092600.htm) (accessed 11 Jul 2013).
- 7 NPC. Anti-drug law of the People's Republic of China. Order of the President of the People's Republic of China No. 79. Effective date 1 June 2008. Standing Committee of the National People's Congress. 2007. [http://www.npc.gov.cn/englishnpc/Law/2009-02/20/content\\_1471610.htm](http://www.npc.gov.cn/englishnpc/Law/2009-02/20/content_1471610.htm) (accessed 25 Nov 2014).
- 8 Cohen JE, Amon JJ. Health and human rights concerns of drug users in detention in Guangxi Province, China. *PLoS Med* 2008;5:e234.
- 9 UNAIDS. WHO Guidelines on HIV infection and AIDS in prisons. 1993. [http://www.who.int/hiv/du/WHO-Guidel-Prisons\\_en.pdf](http://www.who.int/hiv/du/WHO-Guidel-Prisons_en.pdf) (accessed 13 Aug 2013).
- 10 Yap L, Wu Z, Liu W, *et al*. *The health and wellbeing of re-education through-labour camp (laojiaosuo) detainees in a south-western China region (Summary Report)*. Sydney: Kirby Institute, University of New South Wales, 2013. <http://www.kirby.unsw.edu.au/sites/default/files/hiv/attachment/LabourCampDetaineesReport.pdf> (accessed 13 Aug 2013).
- 11 UNODC, WHO. *HIV testing and counselling in prisons and other closed settings (Policy Brief)*. New York: United Nations, 2009.
- 12 UNODC, WHO. *HIV testing and counselling in prisons and other closed settings*. Technical paper. New York: United Nations, 2009.
- 13 Hayes R, Sabapathy K, Fidler S. Universal testing and treatment as an HIV prevention strategy: research questions and methods. *Current HIV Res* 2011;9:429–45.
- 14 Wolfe D, Saucier R. In rehabilitation's name? Ending institutionalised cruelty and degrading treatment of people who use drugs. *Int J Drug Policy* 2010;21:145–8.
- 15 Amon JJ, Pearhouse R, Cohen JE, *et al*. Compulsory drug detention in East and Southeast Asia: evolving government, UN and donor responses. *Int J Drug Policy* 2014;25:13–20.