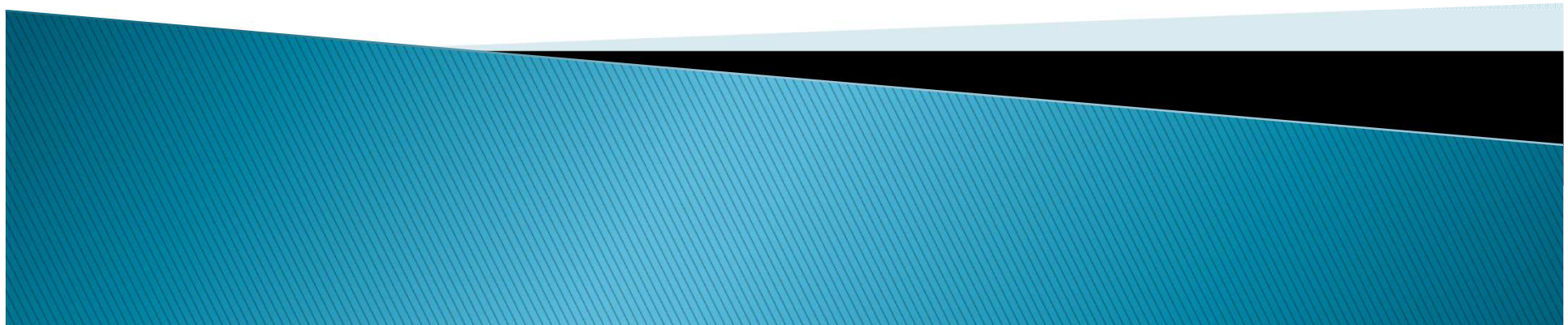


# Comparison of HIV prevalence and related risk behaviors between the community-based drug users and rehabilitation center-based drug users

GAP-Guangdong  
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# 1. Objective

- ▶ To compare the difference in prevalence of HIV, HCV and syphilis, and related risk behaviors between community-based drug users and rehabilitation center-based drug users

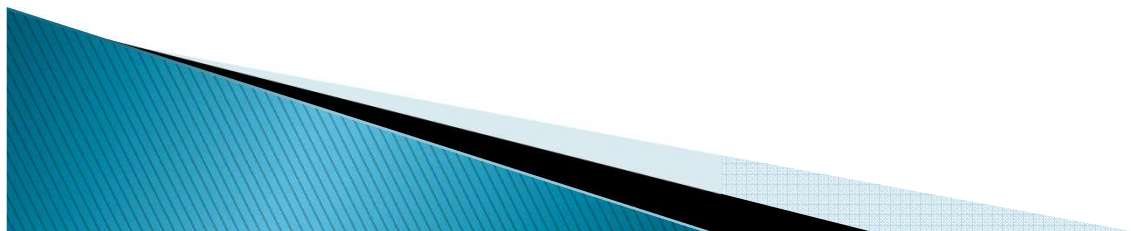


## 2. Methods

- ▶ Respondent-Driven Sampling (RDS) was applied to recruit community-based drug users in 3 cities in Guangdong Province.
    - Face-to-face interviews were conducted in a separate room.
    - Used standard questionnaires, including demographic characteristics, drug use, sex behaviors and other related information.
    - Blood samples were collected and tested for HIV, HCV and syphilis antibodies.
  - ▶ The interviews and serological tests were administered among the rehabilitation center-based drug users based on the national HIV sentinel surveillance protocol.
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## 2.1 Respondents

- ▶ community-based drug users
  - Live or work in City1, City2 or City 3 for more than 3 months;
  - age > 18 years;
  - Use drugs in the last 6 months.
- ▶ rehabilitation center-based drug users
  - All the drug users entered rehabilitation centers in 2012.



## 2.2 Sampling

- ▶ The investigated sites located in three cities in Guangdong, with different economics, and HIV epidemic level:
  - City 2 and City 3 had similar HIV epidemic level, but City 2 was less developed economically;
  - HIV epidemic in City 1 was less severe than the other two cities, but the economic was more developed.

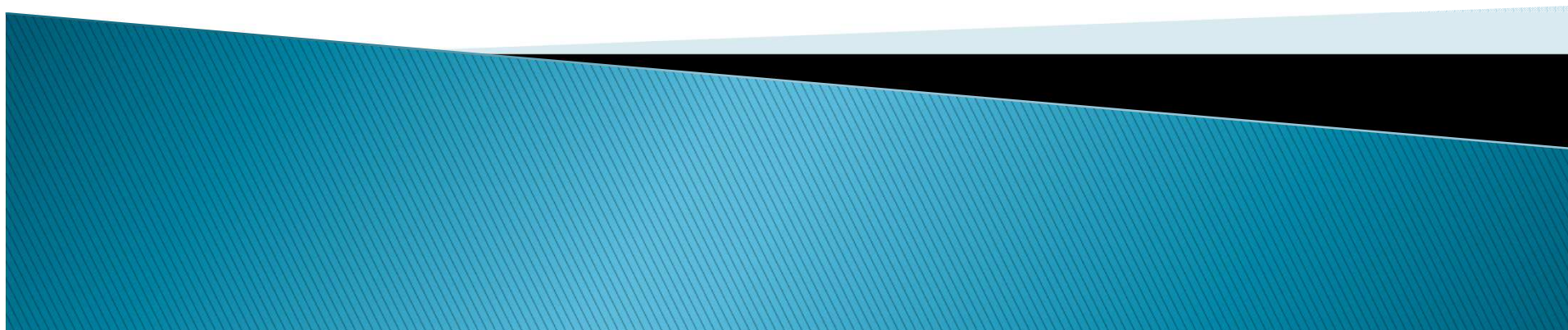


## 2.4 Lab Testing

- ▶ HIV testing was performed according to the China AIDS/HIV Testing Protocol published in 2009.
- ▶ HCV antibody: two ELISA from different manufacturers.
- ▶ Syphilis antibody: ELISA + TRUST.



# 3. Results



## 3.1 Comparison of demographic characteristics

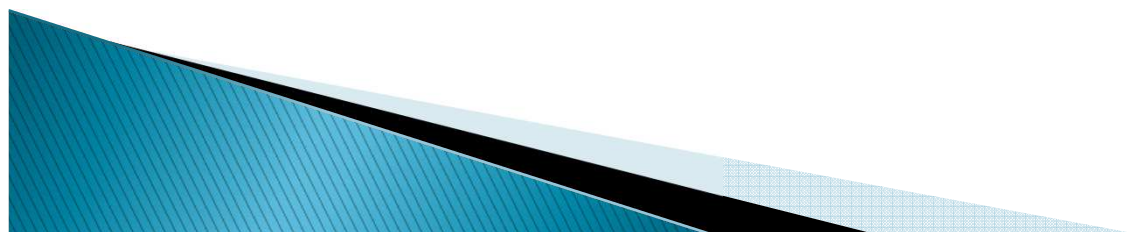
- ▶ A total of 1999 drug users were recruited. The recruited respondents in City 1, 2 and 3 were: 264, 411 and 230 from communities, and 400, 288 and 406 from rehabilitation centers.
- ▶ Compared with the rehabilitation center-based drug users, the community-based drug users in City 1 had higher proportion of females, lower proportion of migrants; while those in City 2 had a higher proportion of unmarried.
- ▶ The demographic characteristics in City 3 were not significantly different between rehabilitation center-based and community-based drug users.





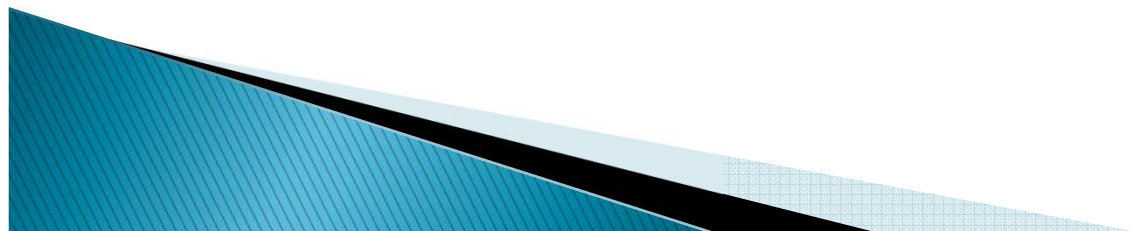
## 3.1 Comparison of demographic characteristics

	City 1		<i>P</i>	City 2		<i>P</i>	City 3		<i>P</i>
	Community (n=264)	RC (n=411)		Community (n=230)	RC (n=400)		Community (n=288)	RC (n=406)	
<b>Gender</b>									
M	240 (90.9)	403 (98.1)	<0.001	208 (90.4)	372 (93.0)	0.251	285 (99.0)	400 (98.5)	0.873
F	24 (9.1)	8 (1.9)		22 (9.6)	28 (7.0)		3 (1.0)	6 (1.5)	
<b>Age (years)</b>									
≤25	5 (1.9)	49 (11.9)	<0.001	20 (8.7)	79 (19.8)	<0.001	9 (3.1)	26 (6.4)	0.135
26~	74 (28.0)	181 (44.0)		68 (29.6)	135 (33.8)		68 (23.6)	109 (26.8)	
36~	145 (54.9)	155 (37.7)		119 (51.7)	165 (41.2)		161 (55.9)	212 (52.2)	
46~	40 (15.2)	26 (6.3)		23 (10.0)	21 (5.2)		50 (17.4)	59 (14.5)	
<b>Marital status</b>									
unmarried	109 (41.3)	168 (40.9)	0.840	93 (40.4)	73 (18.2)	<0.001	99 (34.4)	110 (27.1)	0.077
married	128 (48.5)	195 (47.4)		96 (41.7)	298 (74.5)		169 (58.7)	256 (63.1)	
divorced	27 (10.2)	48 (11.7)		41 (17.8)	29 (7.2)		20 (6.9)	40 (9.9)	
<b>Education</b>									
≤primary	45 (17.0)	151 (36.7)	<0.001	67 (29.1)	103 (25.8)	0.559	63 (21.9)	96 (23.6)	0.028
Jr. high	194 (73.5)	221 (53.8)		142 (61.7)	264 (66.0)		202 (70.1)	253 (62.3)	
≥ Sr. high	25 (9.5)	39 (9.5)		21 (9.1)	33 (8.2)		23 (8.0)	57 (14.0)	
<b>Hukou</b>									
Guangdong	251 (95.1)	210 (51.1)	<0.001	219 (95.2)	365 (91.2)	0.065	276 (95.8)	390 (96.1)	0.882
Other provinces	13 (4.9)	201 (48.9)		11 (4.8)	35 (8.8)		12 (4.2)	16 (3.9)	
<b>Ethnic group</b>									
Han	264 (100.0)	369 (89.8)	<0.001	230 (100.0)	384 (96.0)	0.002	288 (100.0)	400 (98.5)	0.098
Other	0 (0.0)	42 (10.2)		0 (0.0)	16 (4.0)		0 (0.0)	6 (1.5)	



## 3.2 Comparison of drug use and related risk behaviors

- ▶ There were differences in two high-risk behaviors – injection drug use and needle sharing – between rehabilitation center-based and community-based drug users ( $p < 0.001$ ).
- ▶ In City 1, community drug users had higher proportion of injection than those in the rehabilitation center ( $p < 0.001$ )
- ▶ In City 2, community drug users also had higher proportion of injection and needle-sharing ( $p < 0.001$ ).
- ▶ In City 3, there were differences between community-based drug users and rehabilitation center-based drug users in: injection, daily injection frequency in past month, and needle-sharing frequency in past month ( $p < 0.001$ ).



## 3.2 Comparison of drug use and related risk behaviors

	City 1		<i>P</i>	City 2		<i>P</i>	City 3		<i>P</i>
	C (%)	RC (%)		C (%)	RC (%)		C (%)	RC (%)	
<b>IDU</b>									
yes	222 (84.1)	282 (68.6)	<0.001	175 (76.1)	224 (56.0)	<0.001	265 (92.0)	323 (79.6)	<0.001
no	42 (15.9)	129 (31.4)		55 (23.9)	176 (44.0)		23 (8.0)	83 (20.4)	
<b>Injection in last month</b>									
yes	50 (22.5)	226 (80.1)	<0.001	128 (73.1)	150 (67.0)	0.183	153 (57.7)	275 (85.1)	<0.001
no	172 (77.5)	56 (19.9)		47 (26.9)	74 (33.0)		112 (42.3)	48 (14.9)	
<b>Daily injection</b>									
1	12 (24.0)	35 (15.5)	0.147	39 (30.5)	48 (32.0)	0.784	43 (28.1)	30 (10.9)	<0.001
multiple	38 (76.0)	191 (84.5)		89 (69.5)	102 (68.0)		110 (71.9)	245 (89.1)	
<b>Sharing needles</b>									
yes	28 (12.6)	82 (29.1)	<0.001	67 (38.3)	51 (22.8)	0.001	54 (20.4)	106 (32.8)	0.001
no	194 (87.4)	200 (70.9)		108 (61.7)	173 (77.2)		211 (79.6)	217 (67.2)	
<b>Sharing in last month</b>									
yes	7 (25.0)	32 (39.0)	0.180	7 (10.4)	11 (21.6)	0.096	5 (9.3)	54 (50.9)	<0.001
no	21 (75.0)	50 (61.0)		60 (89.6)	40 (78.4)		49 (90.7)	52 (49.1)	
<b>Sharing frequency in last month</b>									
sometimes	6 (21.4)	31 (37.8)	0.160	5 (7.5)	11 (21.6)	0.027	4 (7.4)	53 (50.0)	<0.001
every time	1 (3.6)	1 (1.2)		0	0		1 (1.9)	1 (0.9)	
no	21 (75.0)	50 (61.0)		62 (92.5)	40 (78.4)		49 (90.7)	52 (49.1)	



### 3.3 Comparison of sexual behaviors and condom use

- ▶ In City 1, comparing with the rehabilitation center-based drug users, the community-based drug users had higher condom use at last sex, consistent condom use with regular partner in the past year and at last sex ( $p < 0.001$ ).
- ▶ In City 2, comparing with the rehabilitation center-based drug users, the community-based drug users had lower proportion of never using condoms in commercial sex ( $p < 0.005$ ).
- ▶ In City 3, comparing with the rehabilitation center-based drug users, the community-based drug users had higher condom use at last sex ( $p < 0.001$ ), and low proportion of commercial sex ( $p < 0.001$ ).




### 3.3 Comparison of sexual behaviors and condom use

	City 1		<i>P</i>	City 2		<i>P</i>	City 3		<i>P</i>
	C (%)	RC (%)		C (%)	RC (%)		C (%)	RC (%)	
<b>Condom use at last sex</b>									
yes	136 (85.0)	36 (27.7)	<0.001	37 (36.3)	55 (28.1)	0.145	38 (30.9)	26 (14.5)	0.001
no	24 (15.0)	94 (72.3)		65 (63.7)	141 (71.9)		85 (69.1)	153 (85.5)	
<b>With regular partner</b>									
Condom use in the past year									
near	11 (9.2)	117 (71.8)	<0.001	51 (67.1)	152 (57.6)	0.233	123 (84.8)	158 (79.0)	0.245
sometimes	45 (37.8)	30 (18.4)		18 (32.7)	70 (26.5)		13 (9.0)	30 (15.0)	
every time	63 (52.9)	16 (9.8)		7 (9.2)	42 (15.9)		9 (6.2)	12 (6.0)	
Condom use at last sex									
yes	95 (79.8)	31 (19.0)	<0.001	21 (27.6)	76 (28.8)	0.844	18 (12.4)	26 (13.0)	0.872
no	24 (20.2)	132 (81.0)		55 (72.4)	188 (71.2)		127 (87.6)	174 (87.0)	
<b>With commercial partner</b>									
Sex in the past year									
yes	49 (18.6)	76 (18.5)	0.982	52 (22.6)	89 (22.3)	0.930	16 (5.6)	64 (15.8)	<0.001
no	215 (81.4)	335 (81.5)		178 (77.4)	310 (77.7)		272 (94.4)	342 (84.2)	
Condom use in the past year									
never	5 (10.2)	16 (21.1)	0.231	3 (5.8)	20 (22.5)	0.004	2 (12.5)	17 (26.6)	0.491
sometimes	10 (20.4)	17 (22.4)		14 (26.9)	9 (10.1)		2 (12.5)	6 (9.4)	
every time	34 (69.4)	43 (56.6)		35 (67.3)	60 (67.4)		12 (75.0)	41 (64.1)	
Condom use at last sex									
yes	38 (77.6)	52 (68.4)	0.267	42 (80.8)	65 (73.0)	0.300	14 (87.5)	43 (67.2)	0.195
no	11 (22.4)	24 (31.6)		10 (19.2)	24 (27.0)		2 (12.5)	21 (32.8)	



### 3.4 Comparison of HIV, HCV and syphilis infection

- ▶ In City 2, the prevalence of HIV was 8.3% for community-based drug users, which was higher than that (1.2%) of the rehabilitation center-based drug users ( $\chi^2=19.71$ ,  $P=0.001$ ). There was no difference in syphilis infection.
  - ▶ In City 2 and City 3, the prevalence of HCV for the rehabilitation center-based drug users was 65.0% and 85.5% respectively, while those of the community-based drug users were 75.0% and 92.4%, respectively ( $\chi^2=7.56$ ,  $P=0.006$ ; and  $\chi^2=7.77$ ,  $P=0.005$ ). There was no difference in HIV and syphilis infection.
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## 4. Conclusions

- ▶ There were varying degrees of difference in HIV prevalence, demographic characteristics and behaviors between the rehabilitation center-based drug users and the community-based drug users in different regions
- ▶ It indicates that the sentinel surveillance data mainly from rehabilitation centers may not be able to reflect the real situation.
- ▶ For further comprehensive assessment, we should combine the data of the community-based drug users with the data of the rehabilitation-based drug users.

