

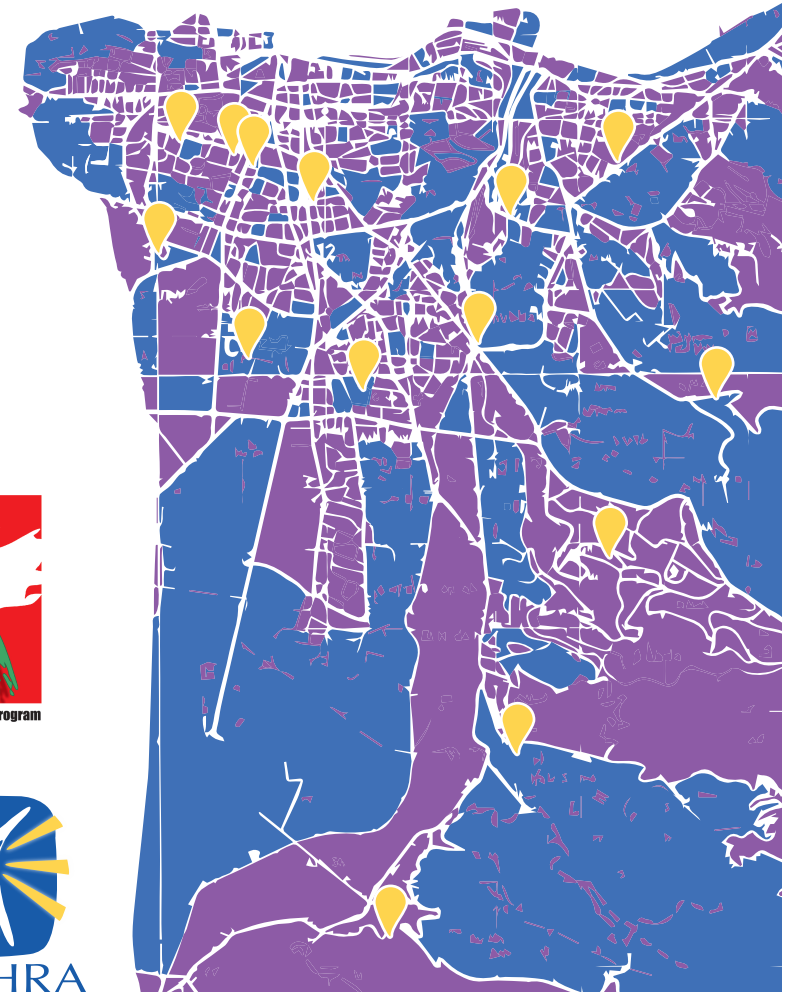
PROJECT CROSSROADS

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Size Estimation, Risk Behavior Assessment, and
Disease Prevalence among Key Populations in Lebanon

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OVERVIEW

This report contains the results of a study designed to explore two groups at high risk for HIV – people who inject drugs (PWID) and men who have sex with men (MSM) – in Lebanon.

PWID were defined as individuals reporting that they had injected drugs in the 30 days prior to being recruited into the study.

MSM were defined as men reporting that they had engaged in either anal or oral sex with another man in the last 12 months.

PURPOSE

- Estimate the population size,
- Determine HIV prevalence and HIV risk-taking behaviors,
- Determine the prevalence and risk for hepatitis C virus (HCV) infection among both populations
- Map the distribution of study participation and disease for both populations.

METHODS USED

Members of the two populations were recruited into the study using a widely employed method for reaching hidden populations – respondent driven sampling (RDS). RDS relies on social network contacts to reach members of a hidden population.

- A small number of individuals in each population serve as seeds to reach additional members of the population.
- A coupon system is used to maintain individual confidentiality, track recruitment progress, and reimburse recruiters whose coupons are redeemed.
- Recruited participants were administered a survey that included sociodemographic, behavioral, medical, social network, and stigma domains.
- Serological testing was offered to detect HIV, HCV, and hepatitis B infections.

Recruitment of seeds and operation of the RDS recruitment system was conducted by outreach teams from local non-governmental organizations that serve the PWID and MSM communities.

Population estimation relied on the RDS data including network size, number of coupons in circulation, length of time before coupons are redeemed, and the full recruitment tree. Mapping of individuals at the level of their neighbors of residence was used to determine the catchment area of the study and the spatial distribution of HIV and HCV infections.

RESULTS



Recruitment, interviewing, and HIV and HCV testing were conducted between 15 October 2014 and 15 February 2015.



The size of the **PWID** population in the Beirut region was estimated to be **3,114** people (± 2,302)



HIV prevalence was low in the PWID population, with only 1 infection detected (0.3% of those tested), but HCV prevalence was high, with 82 positive test results among the 304 PWID who accepted testing (27.6%).



The size of the **MSM** population in the Beirut region was estimated to be **4,220** people (± 2,192)



Summary Table 1. Geographic Distribution of Residences of **PWID** and **MSM** Recruited by RDS

Locality	PWID (N=390)	MSM (N=278)
Beirut	332 85.1%	181 65.1%
Adjacent Suburbs (≤10 km)	45 11.5%	66 23.7%
Outlying Regions/Cities	13 3.3%	31 11.2%

Geographic data were missing for two of the 392 PWID.



Study teams enrolled **392** PWID & **290** MSM in the four months that the study was in the field.

HCV prevalence in PWID was associated with ever having been incarcerated, reusing syringes, having a large network of injectors, and having been diagnosed with a sexually transmitted disease in the past year.

Non-fatal opioid overdoses were common occurrences, reported by more than half of the PWID. Factors associated with such episodes were ever having been incarcerated and formerly in drug treatment, reusing syringes, and larger social network size.

HIV prevalence was high in the MSM population, with 33 infections previously known and reported plus 4 new cases detected (12.8%).

MSM with known HIV infection have no trouble receiving HIV care and antiretroviral treatment.

Summary Table 2. Geographic Distribution of **HCV** Seroprevalence among **PWID**

Locality	HCV+ (N=84)	HCV- (N=306)
Beirut	62 73.8%	270 88.2%
Adjacent Suburbs (≤10 km)	14 16.5%	31 10.1%
Outlying Regions/Cities	8 9.7%	5 1.6%

A total of 84 HCV+ cases were identified: 2 reported previous diagnosis and 82 new cases were detected by serological testing.



For both populations, most participants resided within the governorate of Beirut.

Factors associated with HCV infection and recent overdose overlapped substantially, suggesting that bloodborne infection and overdose risk might be related.

Both PWID and MSM populations report high level of experienced stigma, including frequent episodes of verbal abuse and physical assault. Refusal of housing and employment are bigger problems for PWID than MSM, but sexual assault is a bigger problem for MSM.

HIV prevalence in MSM was associated with older age and having fewer partners in the past year. The last finding may be related to the fact that most MSM already knew that they had been infected and had reduced their efforts to seek all but HIV+ partners (serosorting).

Summary Table 3. Geographic Distribution of **HIV** Prevalence among **MSM**

Locality	HIV+ (N=35)	HIV- (N=243)
Beirut	17 48.6%	164 67.5%
Adjacent Suburbs (≤10 km)	9 25.7%	57 23.4%
Outlying Regions/Cities	9 25.7%	22 9.1%

Geographic data were missing for two of the 37 HIV+ MSM

LIMITATIONS

- Mapping of the recruitment patterns for both PWID and MSM demonstrate that the catchment area for this study is largely limited to the Beirut governorate. Estimations for the population in all of Lebanon are not possible.
- Population estimates are based on a novel method that is an improvement over previous methods but the accuracy of the estimates cannot be validated.
- Residential geospatial data reported by study participants are incomplete, so mapping is limited to the district level.
- Behavioral data are self-reported and cannot be verified, but the patterns are consistent with finding from recent studies of PWID and MSM population in Western Europe and North America.
- Due to the unstable security situation in the country, some areas in Lebanon were inaccessible which limited data collection.

RECOMMENDATIONS

Recommendations cover (1) policy and prevention and (2) future research and (3) outcomes assessment.

- Continued outreach is necessary for both populations to provide HIV (and HCV) prevention education, access to sterile syringes and condoms, HBV vaccination, and medical care for those infected with HCV.
- Overdose prevention and response training for PWID is needed to reduce the frequency of opioid overdose events.
- More research is needed to study PWID and MSM population outside of the greater Beirut area, women PWID, and displaced populations residing in Lebanon.
- Active surveillance of HIV and HCV must continue and be actively linked to medical care provision.
- Social marketing to reduce stigma directed against PWID and MSM populations should be considered.