

**2015**

**SIZE ESTIMATION  
OF KEY AFFECTED  
POPULATIONS  
IN THE PHILIPPINES**



**DEPARTMENT OF HEALTH  
EPIDEMIOLOGY BUREAU**

**2015 Size Estimation of Key Affected Populations in the Philippines**

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Printed in the Philippines

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## Acknowledgement

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The 2015 Philippine Population Size Estimation (PSE) of key populations at higher risk for HIV was led by Virginia S.K. Lo, along with Genesis May J. Samonte, Jessica Raphaela G. Mirano, and Lyka Eunice F. Trinidad of the National HIV/AIDS & STI Surveillance and Strategic Information Unit (NHSSS) of the Department of Health-Epidemiology Bureau (DOH-EB), and the 35 site coordinators of the 2015 Integrated HIV Behavioral & Serologic Surveillance (IHBS).

The following NHSSS staff supervised data collection for the 2015 PSE, prepared needed data, and facilitated the PSE consensus workshops: Genesis May J. Samonte, Jessica Raphaela G. Mirano, Noel S. Palaypayon, Ma. Justina G. Zapanta, Marlene R. Bermejo, Krizelle Anne R. Umali, Patricia Isabel G. Amita, Abigail C. Aquino, Lyka Eunice F. Trinidad, Euli Marie G. Peregrino, Ina Kristina M. Pangan, John Edgar S. Tiu, Claude Joseph Z. Payad, Kevin Anthony R. Mendoza, Bettina Kaye D. Castañeda, Richard L. Lepardo, and Nhey Shiel Grace S. Salalila.

Inputs for the population size estimates came from numerous consultation and consensus meetings. The Epidemiology Bureau expresses its deep gratitude to the following for their significant contribution to the 2015 Population Size Estimates:

- All the Local Government Unit mayors, City/Municipal Health Officers, City/Municipal Health Office staff, and Social Hygiene Clinic physicians and staff of the following cities: Angeles, Antipolo, Bacolod, Bacoar, Baguio, Batangas, Butuan, Cagayan de Oro, Caloocan, Cebu, Davao, General Santos, Iloilo, Imus, Las Piñas, Lipa, Makati, Malabon, Mandaluyong, Mandaue, Manila, Marikina, Muntinlupa, Navotas, Parañaque, Pasay, Pasig, Puerto Princesa, Quezon City, San Jose del Monte, San Juan, Taguig, Talisay, Valenzuela, and Zamboanga
- All the 2015 IHBS team members
- All the Regional Epidemiology and Surveillance Unit (RESU) heads and staff of the Department of Health regional offices
- The Field Epidemiology Training Program Alumni Foundation Inc. (FETPAFI)

The 2015 PSE was made possible through the funding support from The Global Fund through Philippine Business for Social Progress (PBSP).

## Foreword

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One of the challenges in understanding the HIV epidemic in many countries is determining the number of key affected populations (KAP). In the context of the Philippines, this information is vital considering the need to provide appropriate services to KAP with the limited amount of resources available.

This 2015, the Epidemiology Bureau of the Department of Health (DOH-EB), together with various partners conducted several activities with the goal of updating the size estimates of KAP in the country, specifically among Males who have Sex with Males (MSM), Female Sex Workers (FSW) and Injecting Drug Users (IDU).

With these updated information, the DOH-EB aims to guide the national, regional, and local HIV program to set appropriate targets for the provision and monitoring of services specific for these key affected populations in different parts of the country.



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## Executive Summary

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Estimating the size of key affected populations (KAP) provides important data for planning and implementing an effective response to the HIV epidemic. In the Philippines, these KAP include males who have sex with males (MSM), female sex workers (FSW), and injecting drug users (IDU). Given the difficulty in reaching these populations, as well as their high mobility, the process consequently entailed a specific methodology to directly estimate the size of KAP. Departing from the literature-based methodology previously used in 2011, the methods included mapping, unique object distribution, and several program multipliers for the 2015 Population Size Estimates. These methods were incorporated in the protocol of the 2015 Integrated HIV Behavioral and Serologic Surveillance (IHBSS), a cross-sectional study which aims to track prevalence of HIV and STI, trends in risk behaviors, and access and utilization of HIV and STI programs and services in the Philippines.

In general, these methods combined IHBSS results with programmatic and other sources of information to develop population size estimates for specific geographic areas. This exercise also applied several innovations in implementing mapping and the unique object multipliers to minimize biases associated with these methods. Consultation with local stakeholders enabled an accounting of probable biases, and following adjustments to these estimates, consensus direct estimates were determined. These estimates were then used to extrapolate the population percentage of KAP among the 15-49-year old general population, and then applied to all chartered cities and first class municipalities. Extrapolated results were also developed for provincial, regional, and national levels.

The national estimate of MSM was 531,500 or 2.2% (1.8%-3.2%) of males aged 15-49. Within this MSM estimate, figures for transgender women (TGW) and male transactional sex workers (MSW) were determined. The national estimate for TGW was 122,800 or about 0.50% (0.40%-0.75%) of males aged 15-49, and 23% of the MSM population. Meanwhile, MSW comprised 0.35% (0.29%-0.53%) of the male population aged 15-49 and 16% of the MSM population, giving a best estimate of 86,600.

The estimate of combined RFSW and FFSW was 66,100 or 0.28% (0.19%-0.40%) of females aged 15-49. Meanwhile, there are approximately 10,000 to 21,700 IDU or 0.04%-0.09% of males aged 15-49.

This size estimation process produced results which were consistent with the field experience of local stakeholders and other national level sources of data. This was achieved in part by applying a systematic and transparent method of assessing and adjusting for biases inherent to the size estimation methods used. Stakeholder engagement in this process was key to developing reliable estimates that can be used with confidence at the local, regional, and national levels.

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## Abbreviations

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AIDS	Acquired immune deficiency syndrome
DDB	Dangerous Drugs Board
FSW	Female sex workers
FFSW	Freelance female sex workers
GF	Global Fund
HIV	Human immunodeficiency virus
IDU	Injecting drug users
IHBSS	Integrated HIV Behavioral and Serologic Surveillance
KAP	Key affected populations
LGU	Local government unit
MEW	Male establishment workers
MSM	Males who have sex with males
MSW	Male transactional sex workers
NCR	National Capital Region
NGO	Non-governmental organization
PAHI	Priority areas for HIV intervention
PM	Program multiplier
PSE	Population size estimates
RDS	Respondent-driven sampling
RFSW	Registered female sex workers
SHC	Social hygiene clinic
TGW	Transgender women
TLS	Time-location cluster sampling
UO	Unique object

# Introduction

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Population size estimates (PSE) for key affected populations (KAP) at higher risk for HIV and AIDS are critical inputs for prioritizing service areas, planning programs, rational budgeting, setting targets, and modeling the trajectory of the epidemic<sup>1</sup>. Size estimates for local jurisdictions as well as regional and national level estimates are needed by the government and its partners in implementing effective HIV prevention as well as care and treatment services.

In the context of the Philippine HIV epidemic, KAP include males who have sex with males (MSM), female sex workers (FSW), and injecting drug users (IDU). For both MSM and FSW, varying degrees of risk behaviors prevalent among specific subgroups<sup>2</sup> necessitate additional subgroup-focused estimation. In this report, the term MSM encompasses a wide range of subgroups including transgender women (TGW) or female-identifying MSM<sup>3</sup>, males who have transactional sex with males (MSW), and males working in entertainment establishments (MEW).<sup>4</sup> Meanwhile, there are two sub-groups within the population of FSW including: freelance FSW (FFSW) and registered FSW (RFSW).

There are many challenges in estimating the size of KAP. First, most of these populations are highly mobile and do not necessarily cluster by residence. Second, these KAP categories are derived from behavioral criteria, which are subject to other factors that change over time. Naturally, any attempt at estimation will always reflect this fluidity. Third, much as the identified categories are behavior-based, disclosure remains difficult to obtain given the illegal and/or highly stigmatized nature of these behaviors—and the identities associated with such acts (i.e. male-to-male sex). These abovementioned characteristics of KAP require specialized methods for estimating their population size.

In the Philippines, previous efforts in determining PSE for different KAP have used various methods. The recent estimates released in 2011<sup>5</sup> built on consensus of various stakeholders on best available data<sup>6,7</sup> for MSM. The methodology used in 2011 and the dearth of data did not allow for the estimation of the TGW and MSW population. For FSW meanwhile, estimates were drawn from approximation of RFSW and FFSW populations. Determining RFSW size relied on register counts from Social Hygiene Clinics (SHCs) while the FFSW estimates entailed the use of an amalgam of methods (e.g. mapping for IHBSS sampling frame development, census counts at selected venues, and expert opinion). Notably, estimation for FFSW was only conducted for a few areas, the results of which were then extrapolated to the rest of the country. Finally, figures for IDU were based on estimates by local experts in three cities (i.e. Cebu, General Santos, and Zamboanga) with high concentrations of IDU and a national survey on drug use conducted by the Dangerous Drugs Board of the Philippines.

The MSM population estimate ranged from 1.7%<sup>6</sup> to 3.0%<sup>7</sup> of the male population aged 15-49. Meanwhile, FSW were estimated to be 0.4% of the female population aged 15-49. National estimates of IDU used ranged between 0.03% and 0.04%.

The current effort described in this report capitalized on the large scope of the 2015 Integrated HIV Behavioral and Serologic Surveillance (IHBSS). By harmonizing with the 2015 IHBSS, multiple methods were triangulated

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<sup>1</sup> Joint United Nations Programme on HIV/AIDS (UNAIDS) & World Health Organization (2010). *Guidelines on Estimating the Size of Populations Most at Risk to HIV*. Geneva, Switzerland.

<sup>2</sup> Department of Health (2014). 2013 Integrated HIV Behavioral and Serologic Surveillance. Manila, Philippines.

<sup>3</sup> For the purposes of this size estimation exercise, transgender women (TGW) was defined as individuals born biologically male and who currently identify as female. However, it is recognized that the definition of TGW varies depending on context and place however for size estimation purposes a consistent definition was applied in all areas of the country.

<sup>4</sup> In this report, estimates of MSM who have transactional sex are presented including those meeting male clients through entertainment establishments (for 31 cities), as well as estimates of men who have transactional sex meeting either male or female clients through entertainment establishments (for 4 cities). Some portion of these MEW may only have sex with female clients.

<sup>5</sup> Philippine National AIDS Council (2011). *2011 Philippine Estimates of the Most At-Risk Population and People Living with HIV*. Available online at <http://www.doh.gov.ph/sites/default/files/publications/2011PLHIVandMARPEstimates.pdf>.

<sup>6</sup> National Statistics Office (2004). *2003 National Demographic and Health Survey*. Manila.

<sup>7</sup> Wi TEC, Ramos, Epi R, Steen R, et al. (2000). Enhanced STI Control in Angeles City, Philippines.



to come up with a more robust estimate range. Most importantly, this is the first time these methods have been planned and implemented prospectively in the Philippines.

The main objectives of the *2015 Size Estimation of Key Affected Populations in the Philippines* were to support geographic prioritization of HIV-related programs and services as well as to promote rational budgeting and target setting by:

- Obtaining 'direct'<sup>8</sup> estimates of the size of KAP in specific cities where special data collection was conducted (e.g. IHBSS or program records from SHCs or Global Fund (GF) program); and
- Using the direct size estimates to extrapolate to other areas of the country, making appropriate adjustments for general population sizes and other relevant characteristics. The extrapolation component of the exercise resulted in PSE for these KAP at the city/municipal, provincial, regional and national levels.

The resulting PSE for each KAP group are presented as a 'best estimate' and a range defined by a lower and upper bound.

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<sup>8</sup> The term 'direct' estimates in this report refers to estimates calculated from local data using methods such as mapping, multiplier method, or other survey methods. The term 'direct' estimates is used in contrast to estimates that are generated through extrapolation.

## Methodology

### A. Overview

Determining the 2015 PSE of KAP can be described in two phases: first, is by obtaining the direct size estimates at city level for IHBSS sites and second, is by extrapolating the size estimates to areas without direct local data.

The first phase of direct size estimation required the following:

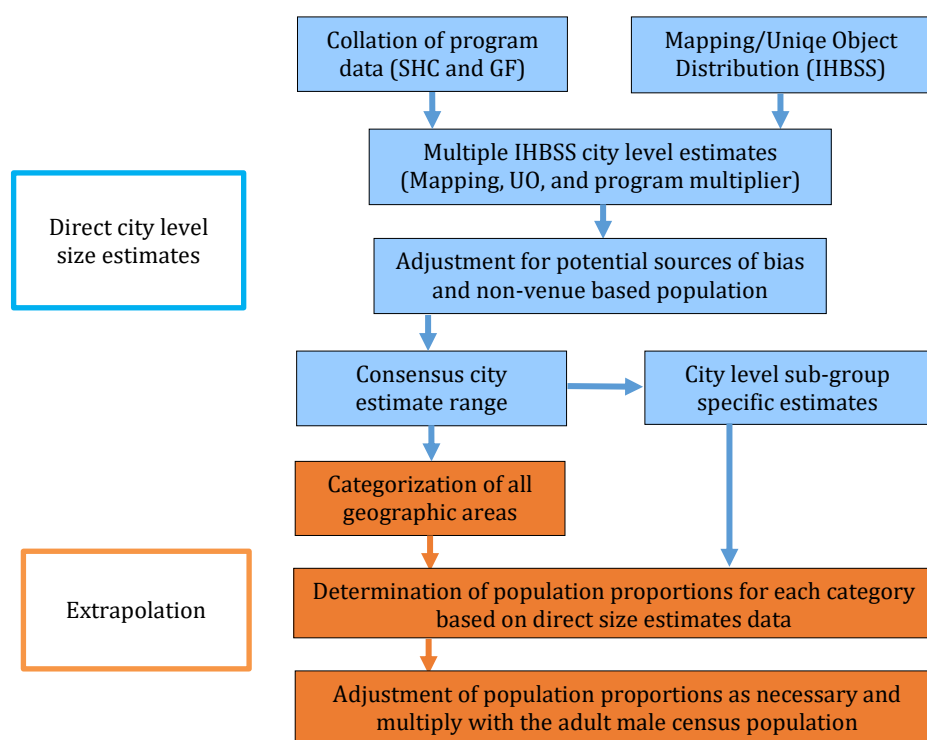
- Collecting data at the city level (IHBSS sites) i.e. reviewing existing program record;
- Conducting the IHBSS including the mapping (for MSM and FFSW); and distributing objects to eligible members of KAP for sites using the Unique Object (UO) multiplier;
- Analyzing IHBSS results and calculating PSE based on these data;
- Adjusting for non-venue or non-networked members of KAP otherwise meeting the IHBSS eligibility criteria;
- Adjusting and developing consensus figures across available direct PSE results through city level stakeholder consultations; and
- Calculating KAP percentages (i.e. the % of general population males or females 15-49 years old who are MSM/IDU or FSW) in cities with direct estimates.

In the second phase, extrapolation was applied to non-IHBSS-chartered cities and class 1 municipalities, as well as regional and national levels by:

- Defining and grouping all cities into different extrapolation categories;
- Calculating the adjusted or median value of grouped cities with direct estimates;
- Applying the calculated value of the KAP percentages to the total 15-49 years old population counts for males and females in each city;
- Aggregating results across areas to obtain provincial, regional, and national levels; and
- Estimating upper and lower bounds to determine a range around the 'best estimate'.

The figure below further summarizes the processes the current population size estimation entailed.

Figure 1. Flow chart of two-phase PSE process: Example for MSM



## B. Operational Definitions

The operational definitions of the different KAPs used for the PSE were adopted from those used in the IHBSS<sup>9</sup>, i.e.

- MSM (including TGW and MSW): born male, 15 years or older, who had oral or anal sex with a male in the past 12 months and lived, worked or socialized in the city;
  - Transgender Women (TGW): born male, 15 years or older, who identifies as female, had oral or anal sex with a male in the past 12 months and lived, worked or socialized in the city;
  - Male Transactional Sex Workers (MSW): born male, 15 years or older, who had oral or anal sex with a male in the past 12 months, accepted cash or kind in exchange for sex, and lived, worked or socialized in the city;
- MEW: born male, 15 years or older, who had sex with a male or female in exchange for cash or kind in the past three months and works in an entertainment establishment in the city;
- IDU: 15 years or older, who had injected drugs not prescribed by a physician in the past six months, and lives in the city.
- FSW: born female, 15 years or older, who had sex in exchange for cash or kind in the past one month. FSW are distinguished in two main sub groups;
  - Registered female sex workers (RFSW): those who work in entertainment establishments registered in the local SHC (and are therefore required to undergo routine health check-ups at the SHC);
  - Freelance female sex workers (FFSW): those who are street-based or based in an entertainment establishment NOT registered at the local SHC (e.g. found at a cruising site, etc.).

## C. Brief overview of the IHBSS

Data from the IHBSS were instrumental in generating direct size estimates for key cities. The 2015 IHBSS is a cross-sectional study which aims to track prevalence of HIV and STI, trends in risk behaviors, and access and utilization of HIV and STI programs and services among various KAP in the Philippines. The 2015 IHBSS was conducted from May to August 2015 in 35 surveillance sites for MSM, four for MEW, two for TGW, one for RFSW, one for FFSW, and three for IDU.<sup>10</sup> Data collected during the 2013 IHBSS for FSW in 10 cities (10 for RFSW and nine for FFSW) were also used as there were only two FSW sites in the 2015 IHBSS.

The sampling methodology used for each KAP also determined the type of PSE methods which could be used. For example, time location cluster sampling (TLS) requires mapping of KAP geographically for sampling frame development, while respondent-driven sampling (RDS) does not. In both the 2013 and 2015 IHBSS, TLS was used for MSM and FFSW, systematic sampling (probability proportionate to size) was used for MEW and RFSW, and RDS was used for IDU. For TGW, RDS was used in 2015 while purposive sampling was used in 2013.

Table 1. Number of sites in 2013 and 2015 IHBSS by KAP

	MSM	MEW	TGW	RFSW	FFSW	IDU (Male)	IDU (Female)
2015 IHBSS	35	4	2	1	1	2	1
2013 IHBSS	21	3	1	10	9	2	1

<sup>9</sup> The results section presents further discussion as to the population likely to be represented by the IHBSS and the implications for those represented by the PSE.

<sup>10</sup> Surveys of TGW and MEW were used to inform decisions made about estimating the size of key sub-groups and to assess potential bias of the MSM surveys.

#### ***D. Direct size estimate methods used***

The 2015 PSE applied multiple methods of size estimation in the same city and triangulated the results to develop a consensus best estimate. Three main methods with different variants were used for obtaining direct size estimates: mapping, unique object and program multiplier. Global guidance<sup>11</sup> for estimating the size of KAP provided the general basis for the implementation of each method. The specific protocols adopted for this exercise are listed in Annex 1.

When the use of multiple methods that are implemented with fidelity yield consistent figures, there is greater confidence in the output among the different stakeholders. However, as is often the case, the different biases inherent to each method employed result in different estimates. Efforts to reconcile these numbers involved an assessment of the degree to which each bias was likely to occur and possible convergence among the adjusted estimates. Information from key informants with field experience working with the KAP in specific cities also provided insights on which estimates are likely to be more reliable (i.e. are consistent with their expert understanding of the local KAP).

Differences in sampling methodology, availability of program data and human resources determined which specific method can be used in each city and with each KAP. The following section describes the general methods used for each KAP. Notably, not all methods were implemented in all IHBSS cities.

##### **a. For MSM:**

Estimating the city level MSM population entailed mapping, unique object distribution, and the use of program multipliers.

*Mapping.* The mapping protocol used in the MSM PSE exercise initially identified venues and spaces where MSM congregate. Teams were then sent to observe and interview key informants about the estimated number of MSM who come to the specific venue as well as those who visit multiple venues at a specific day and time (Saturday, 9pm to 1am). However, to address two common limitations of mapping-based size estimates (i.e. the likelihood of double counting KAP respondents who regularly visit multiple venues and the under-representation of individuals who go to venues infrequently), adjustments and quality assurance methods were built into each approach.

For different cities within the NCR or greater Metro Manila (GMM) area, it was assumed that wanting to meet partners by visiting multiple venues, hence, increasing mobility among MSM and FSW. While the eligibility criteria of the IHBSS did not limit respondents to those who lived in the survey city, the IHBSS provides information on the proportion of respondents who had sex with partners in cities other than the city where they were surveyed. This accounted for mobility of KAP across cities within the NCR and the GMM as estimates of MSM and FSW were aggregated across cities to develop estimates for the NCR.<sup>12</sup>

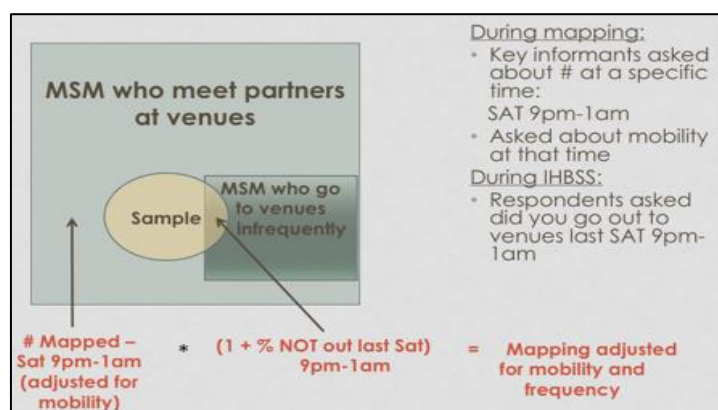
To address the effect of frequency of venue visits, city level mapping data were matched with data from the IHBSS which asked whether respondents had visited a venue the Saturday before the interview between 9pm and 1am. Combined, these generated an estimated number of MSM at all venues mapped with minimal double counting and inflation to account for people who go to venues infrequently. Annex 2 provides the detailed formulae used.

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<sup>11</sup> Joint United Nations Programme on HIV/AIDS (UNAIDS) & World Health Organization (2010). *Guidelines on Estimating the Size of Populations Most at Risk to HIV*. Geneva, Switzerland.

<sup>12</sup> However, the IHBSS results data suggested that very few respondents lived or met sexual partners in cities other than the survey city (e.g. < 10%). For the purposes of size estimation, mobility between cities in the NCR and GMM areas was not considered an important adjustment for the regional and national estimates.

Figure 2. Schematic diagram of adjustments for mobility and frequency of venue visits



*Unique object distribution.* Prior to the IHBSS, a specific number of distinct objects (calendars with a text hotline) were distributed to MSM who were eligible. IHBSS respondents were then asked if they had received the object. With the assumption that the IHBSS sample represents the population being estimated, size was calculated as the number of objects distributed over the percentage of respondents who received the object.

Recipients of the unique object were also asked about the last time they had anal sex. This enabled obtaining separate counts for objects distributed to participants of varying risk, similar to how the IHBSS results were stratified. Recipients who only had oral sex in the last 12 months were considered low risk, those who had anal sex in the last year but not in the last 3 months were medium risk while those who had anal sex in the last 3 months were at higher risk. The unique object estimate was then calculated for the 3 risk groups separately and then summed. This approach reduced the bias in the PSE based on a sample that over represents a higher or lower risk population.<sup>13</sup>

*Program multipliers (PM).* SHC records were used to estimate the number of MSM tested for HIV 3, 6, and 12 months prior to the start of the IHBSS. Service counts were divided by the percentage of respondents who reported being tested for HIV within the 3 identified time frames. In cities with GF programs, the number of MSM reached over a 6-month and a 12-month period were also used as multipliers.

Using 3 different time frames for HIV testing-based multipliers improved the reliability of the PM. In general, the shorter 3-month recall period should provide more accurate results. However, some SHC records showed insufficient numbers to obtain good estimates over a 3-month period. Many cities had relatively new testing services at the time of the IHBSS and the 12-month count and 6-month count were almost the same. In other cities, HIV testing campaigns created spikes in the program counts and there was an increased chance to misclassify respondents according to the timing of their last HIV test. In these situations, the use of a longer time period could minimize the chance for misclassification.<sup>14</sup> With both HIV testing service utilization and GF service coverage counts, the possibility for double counting individuals increased when cumulated over a longer period of time (e.g. 6 months vs. 12 months). This factor also influenced the choice of which PM might be more reliable.

<sup>13</sup> It is also possible to assess the degree to which this bias occurs and affects the interpretation of results generally from the IHBSS. When the sample is representative of the population in the field, it would be expected that the percentage of higher risk respondents among those who received the unique object will be similar to the percentage of unique objects distributed to higher risk individuals. When these percentages do not match, it indicates the direction and degree to which the sample does not represent the higher risk sub-group. The main challenge with this method is that only gross misrepresentation can be detected due to the poor precision associated with estimating these results from the IHBSS data.

<sup>14</sup> Assessment of IHBSS sample bias is also possible when comparing the program counts for different time periods with the timing of HIV testing among respondents who had been tested in the past 12 months.

Table 2. Overview of PSE methods used with MSM populations

Method	General approach	Additional variants and methodological adjustments
Mapping	<ul style="list-style-type: none"> <li>Listed physical venues where MSM congregate</li> <li>Observed and interviewed key informants about the number of MSM who visit the venue</li> <li>Aggregated size derived across all venues in each city</li> </ul>	<ul style="list-style-type: none"> <li>Data collected adjusted for mobility (i.e. MSM who may be double counted at multiple venues) and frequency (i.e. MSM who go to venues less frequently may be underestimated)</li> </ul>
Unique Object (UO)	<ul style="list-style-type: none"> <li>Distributed a specific number of calendars with a text hotline (unique object) among eligible MSM prior to the start of the IHBSS</li> <li>Asked IHBSS respondents if they had received the object</li> <li>Calculated size estimates (assuming the IHBSS represents the population being estimated): number of objects distributed divided by the percentage of respondents who received object</li> </ul>	<ul style="list-style-type: none"> <li>For quality control, the IHBSS probed to ensure that the respondents received the correct object and from a designated distributor.</li> <li>Adjustments were also made to account for possible over-representation of low or high risk MSM.</li> </ul>
Program Multipliers (PM)	<ul style="list-style-type: none"> <li>SHC records used to estimate number of MSM tested for HIV 3-months, 6-months, and 12-months prior to start of IHBSS</li> <li>Service counts divided by the percentage of respondents who reported being tested for HIV in different periods</li> <li>For GF sites, counts of MSM reached over a 6- and 12-month period also used as multipliers</li> </ul>	<ul style="list-style-type: none"> <li>Multiple time periods chosen to reduce potential for double counting individuals, optimize recall by IHBSS respondents, and mitigate fluctuating counts per month.</li> </ul>

#### b. For FSW:

For FSW, PSE methods used were mapping, SHC registry records, and program multipliers.

*Mapping.* The mapping protocol used for FSW was similar to the one used for MSM described in the previous section. However, as the IHBSS mapping protocol for FSW was not specifically designed for PSE purposes, there was no adjustment made for mobility or frequency of venue visits.

*SHC registry records.* Size estimates for FSW also capitalized on the known numbers of RFSW who, by definition, work in entertainment establishments registered in the local SHC and therefore, are required to undergo routine health check-ups. That being said, mobility among RFSW increases the likelihood of overestimating the number of RFSW in a city at a given point in time. RFSW who re-register with the same SHC over a calendar year as they work in multiple cities result in the potential for double-counting the same individual when using register counts over a full year period. Because a majority of RFSW register between January to March of each calendar year, this first quarter (Q1) count provides a size estimate that minimizes the likelihood of double-counting individuals.

*Program multipliers.* To some extent, SHCs also provide services (i.e. cervical exams) to FFSW. Contact with FFSW in this manner allow SHC staff to have some estimates of the numbers of FFSW in the area. These data form the basis of PM estimates and information used to determine the consensus estimates of FFSW. As the 2015 IHBSS included only two FSW sites, efforts were made to retrospectively apply multiplier methods to the 2013 IHBSS for Freelance FSW (FFSW).

Table 3. Overview of PSE methods used with FSW populations

Method	General approach	Additional variants adjustments
Mapping (FFSW)	This method involved listing of physical venues where FFSW congregate and sending teams to visit each venue, making observations and interviewing key informants about the number of FFSW who visit the venue. Sizes were summed across all venues in each city.	Unlike for MSM, the mapping protocol used for FFSW was not specifically designed for PSE purposes and does not account for mobility or frequency.
SHC registry counts (RFSW)	Females working in establishments registered at their local SHC in the current calendar year comprise the estimated size of RFSW.	This was adjusted for mobility of RFSW between cities by comparing the number of RFSW registered over a 12-month period to the number registered in the first 3 months (Q1) of each year.
PM (FFSW)	Counts of FFSW visiting SHC for cervical exams in the year before the IHBSS were divided by the percentage of IHBSS respondents in that city who reported getting a cervical exam at the SHC in the past 12 months.	Unlike for MSM, the PM used for FFSW in the 2013 IHBSS were applied retrospectively.

The total FSW population size was calculated by summing the RFSW and FFSW estimates. It was recognized that some RFSW work outside their usual entertainment establishment in freelance venues and some FFSW may work for short periods in registered entertainment establishments. This results in possible overestimation of the combined FSW PSE.

#### c. For IDU:

The PSE for IDU relied on unique object distribution, and HIV testing and Global Fund program multipliers. The general approach used for each of these methods is the same as described for MSM. As the IHBSS sampling method for IDU (i.e. respondent-driven sampling) does not require construction of a sampling frame, this precluded the use of mapping for direct size estimates.

#### d. Summary of methods used per site:

The aforementioned methods, however, were not necessarily applied to all sites due to several reasons. For MSM, 35 cities had estimates calculated from the mapping results since this is a prerequisite for TLS. With the limited resources to implement UO distribution, only 11 high-burden cities were selected for this method. Meanwhile, program multipliers were not applied to 4 cities whose MSM program is only at its early stage.

For FSW, SHC counts were also collected from the 35 MSM IHBSS sites. However, only 28 SHCs had counts for FSW. Ten of these cities had mapping and program multiplier estimates from the 2013/2014 IHBSS.

For IDU, only Cebu and Mandaue had UO and PM direct estimates.

The different methods used with the KAPs are summarized in Table 4.

Table 4. Summary of methods used in different sites with different key affected populations

IHBSS sites	MSM			FSW			IDU	
	Mapping	UO	PM	Mapping*	PM*	SHC Counts	UO	PM
Angeles	X	X	X	X	X	X		
Antipolo	X		X			X		
Bacolod	X		X			X		
Bacoor	X	X				X		
Baguio	X	X	X	X	X	X		
Batangas	X	X	X			X		
Butuan	X		X			X		
Caloocan	X	X	X			X		
Cagayan de Oro	X	X	X	X	X	X		
Cebu	X	X	X	X	X	X	X	X
Davao	X	X	X	X	X	X		
General Santos	X	X	X	X	X	X		
Iloilo	X		X	X	X	X		
Imus	X							
Las Piñas	X		X			X		
Lipa	X							
Makati	X		X			X		
Malabon	X		X			X		
Mandaluyong	X		X			X		
Mandaue	X		X			X	X	X
Manila	X	X	X			X		
Marikina	X		X					
Muntinlupa	X		X			X		
Navotas	X		X			X		
Parañaque	X		X					
Pasay	X		X	X	X	X		
Pasig	X		X			X		
Puerto Princesa	X		X			X		
Quezon City	X	X	X	X	X	X		
San Juan	X		X			X		
SJDM	X		X					
Taguig	X		X					
Talisay	X							
Valenzuela	X		X			X		
Zamboanga	X		X	X	X	X		

\*2013/2014 IHBSS

IHBSS sites	MEW		TGW	
	Mapping	Program	UO	Program
Angeles	X	X	X	X
Cebu				X
Manila	X	X		
Pasay	X	X		
Quezon City	X	X		



### ***E. Adjustments of results of direct size estimation methods***

For all KAP, once the results from each method were obtained, a multi-step process for determining a consensus result across methods was done. The data sources used in each city were assessed whether it provided adequate quality. Results were noted as being of lower reliability if the high estimate (or upper bound) was greater than three times the best estimate.

To address potential biases in the data used to calculate the size estimates, key areas of bias were identified for each method used, e.g. whether counts from SHC testing registers might double-count individuals within a one-year period and whether people who had been tested just prior to the IHBSS were more likely to decline participation in IHBSS, etc. Tables 5a, 5b, and 5c summarize the areas of bias rated by key informants, the direction of each bias (to overestimate [O] or underestimate [U]) the population size, rating scale used, maximum effect on the raw estimate, and relevant method to which the bias applied.

Key informants from each IHBSS city met for a consensus workshop in Metro Manila from 23-25 November 2015 to review the results of each method and provide inputs for each key area of bias identified. Participants of this consensus workshop included the City Health Officers, SHC physicians, site coordinators for IHBSS, and community/NGO representatives. Through group consultation, key informants provided ratings for how large the likely bias might be for each issue in each city.

The rating for each bias assessment was translated into a formula to adjust the results from each method. In general, the formula used to adjust for bias was as follows:

For bias resulting in overestimation:

$$\frac{\text{Unadjusted estimate}}{(1 + 0.25 \times \text{Rating})}$$

For bias resulting in underestimation:

$$\text{Unadjusted estimate} \times (1 + 0.25 \times \text{Rating})$$

These formulae were calibrated so that each adjustment rating had potential to, at maximum, double the estimate or halve the estimate. Multiple adjustments for bias could be applied to the same method either adding to the effect or canceling out each other. Annex 2 shows the formula used to adjust each size estimation method based on the bias assessment ratings.

Table 5a. Areas of bias assessed for MSM/TGW direct estimates

Type of Bias	Direction of Bias (O or U*)	Rating Scale	Level of applicability to direct PSE method	Maximum adjustment
Were a lot of venues NOT included in the mapping?	U	3	Overall	1.75
Were most of the unmapped venues small venues?	U	4	Overall	
Were there many areas of the city not included in mapping?	U	3	Overall	
Were there a lot of people who do not come to venues to meet partners?	U	3	Overall	1.75
Did people who had been tested for HIV recently NOT want to participate in the IHBSS?	O	4	PM	2.0
Were people who have been reached by GF more willing/likely to participate in the IHBSS than those who haven't been contacted by the program?	U	3	GF multiplier	1.75
Were female identifying MSM more willing/likely to be selected for participation in the IHBSS?	O	3	TGW proportion	1.75
Were MSM who sold sex (all year) more willing/likely to be selected for IHBSS?	O	3	MEW proportion	1.75
Were people who tested negative likely to be tested more than once in a year?	O	4	PM 12-mo	2.0
If yes, how many times on average will a person get tested?	O	4		
How well does the program avoid double counting individuals in a 6 month reporting period of GF reach?	O	4	GF 6-mo multiplier	2.0
How many of the people reached in one 6-month reporting period are likely to be reached in the next reporting period?	O	4	GF year multiplier	2.0

\*O=bias results in overestimation; U=bias results in underestimation

Table 5b. Areas of bias assessed for FSW direct estimates

Type of Bias	Direction of Bias (O or U*)	Rating Scale	Level of applicability to direct PSE method	Maximum adjustment
What proportion of RFSW stay in the city for a short period of time (< 3 months) or move cities every few months?	O	3	SHC register	1.75
What proportion of RFSW may be registered more than once over the period of one year?	O	3	SHC register	1.75
Were many venues NOT included in the mapping?	U	3	Overall (FFSW)	1.75
Were most of the unmapped venues small venues?	U	4		
Were there many areas of the city not included in mapping?	U	3		
Were there a lot of FFSW who do not come to venues to meet clients?	U	3	Overall (FFSW)	1.75
Is it likely that RFSW who also work as FFSW were less likely to be included in the IHBSS?	O	3	Overall (FSW)	1.75

\*O=bias results in overestimation; U=bias results in underestimation

Table 5c. Areas of bias assessed for IDU direct estimates

Type of Bias	Direction of Bias (O or U*)	Rating Scale	Level of applicability to direct PSE method	Maximum adjustment
How many IDU given the UO were likely to be unconnected to other IDU (i.e. not likely to be recruited through RDS)?	O	3	Unique Object	1.75
How much overlap was there between areas where UO was distributed and the area near/convenient to the RDS center	O	3	Unique Object	1.75
Did IDU who already knew they were HIV positive NOT want to participate in the survey?	U	4	Overall	2.0
Did IDU who had been tested for HIV recently NOT want to participate in the survey?	O	4	Program Multiplier	2.0
Were IDU who have been reached by GF more likely to participate in the survey than those who haven't been contacted by the program?	U	3	GF multiplier	2.0
What proportion of IDU is NOT connected to the network sampled by the IHBSS?	U	3	Overall	1.75
Were IDU who tested negative likely to be tested more than once in a year?	O	4	Program Multiplier	2.0
If yes, how many times on average will an IDU get tested?	O	4	Program Multiplier	
How well does the program avoid double counting individuals in a 6 month reporting period of GF reach?	O	4	GF 6 months and year multiplier	2.0
If an IDU has received an HIV service from a GF program, how many times will he likely be in contact with the GF program (for outreach or clinic visits) within 6 months?	O	4	GF 6 months and year multiplier	
How many of the IDU reached in one 6 month reporting period are likely to be reached in the next reporting period?	O	4	GF year multiplier	2.0

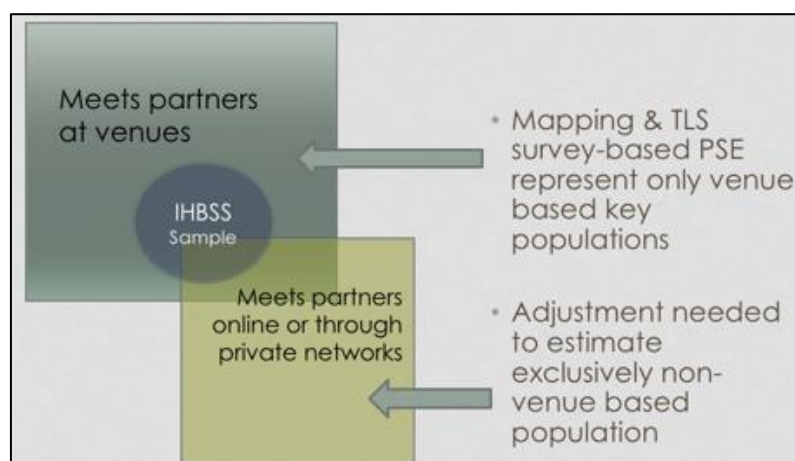
\*O=bias results in overestimation; U=bias results in underestimation

### ***F. Developing consensus estimates from adjusted direct method results***

During the consensus workshop, the adjusted results for each method were reviewed by key informants from LGU and NGOs. With technical guidance from the DOH-EB, a consensus best estimate and range was agreed upon by the key informants. In addition, local stakeholders were asked to systematically rate different types of biases associated with each direct method. A more systematic and transparent approach allowed adjustment for possible biases through a numeric formula.

The resulting size estimates represented only the KAP included in the IHBSS (i.e. for MSM – those who came to venues to meet partners or socialize with other MSM; for FSW – those who solicited clients in physical venues; and for IDU – those individuals part of the IDU network penetrated by the RDS recruitment method). To adjust the consensus PSE to include non-venue based or non-networked members of KAP, stakeholders also provided inputs on the proportion of the total KAP non-venue based or non-networked members.

Figure 3. Accounting for the exclusively non-venue based population



### G. Estimates of key MSM sub-groups

In each MSM IHBS city, sub-group estimates for TGW and male MSW were also developed using data from the IHBS on the proportion of the sample from each group. The TGW proportion per site included female-identifying MSM, while MSW included MSM who accepted cash or kind in exchange for sex.

For TGW, key informant interviews during the consensus workshop discussed the IHBS results on the proportion of respondents who identified as female in the sample for each of the 35 IHBS sites. Key informants gave their best guess of the proportion of TGW among MSM in the city and rated whether they observed/suspected preferential inclusion or undue exclusion of TGW in the IHBS. This process helped adjust IHBS proportions which appeared extreme. The KII guide questions are as follows:

- Do you think the IHBS percentage of MSM who identified themselves as female is realistic for your city? If no, do you think it is an overestimate or an underestimate?
- Based on your knowledge, what % of the M/TSM population are TGW?
- Were female identifying M/TSM more willing/likely to be selected for participation in the IHBS?

For the other sub-group involving MSW, as with the TGW estimates, similar adjustments to these proportions were made based on city-specific stakeholders inputs through key informant interviews during the consensus workshop. The guide questions are as follows:

- Do you think the IHBS percentage of MSM who had transactional sex all year/selected times of the year is realistic for your city? If not, do you think it is an overestimate or an underestimate?
- Based on your knowledge, what % of the M/TSM population engage in transactional sex?
- Were MSM who sold sex (all year/selected times of the year) more willing/likely to be selected for IHBS?

Another group of interest are the male entertainment-establishment based workers (MEW) whose proportion was estimated in two ways. First, by calculating the percentage of respondents in the MSM IHBS who had sold sex in the past twelve months and met their clients in an entertainment establishment. And second, through mapping of male entertainment workers in four cities where sampling frames were developed for MEW IHBS. These mapped numbers were stratified by the proportion of MEW who only took male clients.

### H. Extrapolation to non-IHBS sites

The process for extrapolation required calculation of the population percentage of MSM, FSW, or IDU as a portion of the general adult male or female population aged 15-49 years old in all IHBS cities. For example, if the consensus adjusted estimate of MSM was 10,000 in a city of 500,000 males aged 15-49, the population percentage would be 2%. The population percentages in IHBS cities were then extrapolated to non IHBS

cities and first class municipalities. However, due to the large range in population percentage across IHBSS areas, extrapolation categories were developed to group cities likely to have a similar concentration (i.e. population percentage) of MSM, FSW, or IDU.

In the process of developing the extrapolation categories, the criteria used and the population percentages applied varied depending on data availability and concentration of each of the 3 KAP. This section describes the extrapolation process for each KAP.

a. For MSM:

In IHBSS sites where city-specific size estimate data were available and the resulting population percentage of males 15-49 was  $\geq 1.7\%$  in non NCR cities (n=13) and  $\geq 2\%$  in NCR cities (n=12), the consensus-adjusted estimate was used. The basis for this threshold was the National Demographic Health Survey (NDHS) conducted in 2003 wherein the lower limit of MSM estimate was at 1.7%. Meanwhile, NCR cities have a higher cut-off since all are included in the Priority Areas for HIV Intervention (PAHI) Category A, the highest priority. The PAHI was determined by DOH and PNAC based on different data sources in 2012 and was updated in 2015.

In IHBSS sites where city-specific size estimate data were lacking or the resulting population percentage of males 15-49 was less than the described threshold, an extrapolated value was applied. Three main categories of cities were thus eligible for extrapolation:

- NCR IHBSS sites below the set threshold (n=4)
- Non-NCR IHBSS sites below the set threshold (n=6)
- Non-IHBSS cities and first class municipalities (n=426).

As an initial step in extrapolating MSM size estimates, eligible non-NCR IHBSS sites with sound consensus estimates were divided into different concentration groups by calculating for “cases of HIV-positive MSM per 1000 population” by city. This approach assumed that in cities where sexually active MSM (i.e. have had oral or anal sex with a male in the last 12 months) are present in higher concentrations, it would be likely for these cities to see higher numbers of HIV-positive MSM. The calculation took the number of HIV cases diagnosed from 2010-2015 and with MSM as a risk factor (this includes cases who may have been categorized by another primary risk factor, e.g. IDU), divided it by the number of males aged 15-49 years in the city based on the 2010 census, and multiplied it by 1,000.

Four concentration categories for extrapolation were developed in consideration of the low HIV testing utilization or disclosure of MSM identity which may result in lower HIV-positive MSM cases per 1000, thereby underrepresenting the actual number of MSM in some cities. These categories are the higher ( $>1.2$ ), medium high (0.8-1.2), medium (0.5-0.8), and lower ( $<0.5$ ) concentration of MSM. By using four categories, the misclassification of cities were minimized and the potential error in assigning a population percentage of MSM that was too high or too low was reduced. After categorizing all cities that required extrapolated values using the HIV-positive MSM cases per 1000 criterion, a population percentage was assigned to each concentration category.

The final population percentages applied for the extrapolated non-NCR IHBSS size estimates take into account both the direct size estimates data from IHBSS sites and previously used benchmarks<sup>15</sup>. The lower bound was maintained at 1.7% as per the previous size estimation round (2011). The 2.2% was derived from the median population percentage from consensus estimates of non-NCR IHBSS cities in the medium concentration category. As with the lower bound, the 3.0% came from the previous (2011) round of size estimation. Finally, the 3.7% used in the higher MSM concentration areas represents the median population percentage of non-NCR IHBSS cities' consensus estimates.

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<sup>15</sup> Philippine National AIDS Council. *2011 Philippine Estimates of the Most At-Risk Population and People Living with HIV*, 2011. Available online at <http://www.doh.gov.ph/sites/default/files/publications/2011PLHIVandMARPEstimates.pdf>.  
2003 National Demographic and Health Survey. Manila: National Statistics Office, 2004.  
Wi TEC, Ramos, Epi R, Steen R, et al. Enhanced STI Control in Angeles City, Philippines. FHI: 2000.

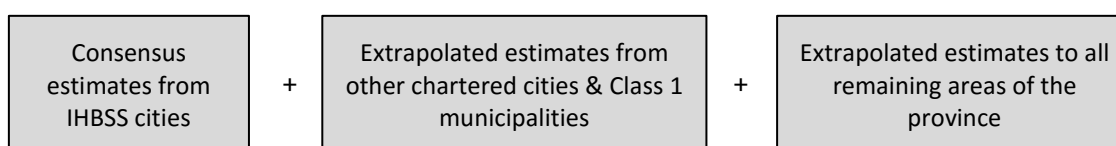
Meanwhile, for NCR cities where HIV testing is more accessible, resulted to higher HIV-positive MSM cases per capita compared to non-NCR areas. With this, the cases per capita threshold was lower compared to non-NCR cities. These cities were then assigned the median population % calculated for NCR cities using the consensus adjusted estimates, 2.5% of the male population aged 15-49 years.

Table 7. City level MSM population percentages applied for extrapolated estimates

Type of City	Consensus estimate criteria	Consensus (C) or Extrapolated (E)	MSM HIV cases per 1000	Population % of males 15-49 applied
IHBSS city, NCR	> 2.0% of males 15-49	C	NA	NA
	< 2.0% of males 15-49	E	>1.0	2.5%
IHBSS city, non-NCR	>1.7% of males 15-49	C	NA	NA
	<1.7% of males 15-49	E	>1.2	3.7 %
			1.2-0.8	3.0 %
			0.8-0.5	2.2 %
<0.5	1.7 %			
Non IHBSS, chartered city or Class 1 municipality	NA	E	>1.2	3.7 %
			1.2-0.8	3.0 %
			0.8-0.5	2.2 %
			<0.5	1.7 %
All other areas	NA	E		1.7%

Provincial level estimates were calculated by applying 1.7% to the remaining male 15-49 population (i.e. populations outside cities and class 1 municipalities) and adding this to the city level aggregate with consensus best estimates based on the IHBSS and extrapolated estimates as described above:

Figure 4. Calculations for provincial level estimates



The sum of all provincial best estimates comprised the regional best estimate and similarly, the sum of all regions comprised the national best estimates. To obtain upper and lower bounds for the provincial and regional estimates, the range of 1.7-3.0% of males 15-49 used in the 2011 estimation process were applied. The exception was the regional estimates for NCR where lower and upper bounds had been estimated for each city and were summed to form the NCR range. National lower and upper bounds were calculated by summing the range across regions.

#### b. For FSW:

The 2015 PAHI was the main basis for the categorization of cities for FSW estimates. All IHBSS sites are either PAHI Category A or B (i.e. among those cities with highest priority in terms of the HIV program).

The process of extrapolation used for FSW was different from MSM because in many non-IHBSS cities SHC registers on RFSW exist. In these chartered cities and Class 1 Municipalities with SHC data the main need for extrapolation was limited to estimating the size of the FFSW sub-group. Most of the 10 FSW IHBSS cities in 2013 had both FFSW and RFSW estimates, and did not require extrapolation. However, Pasay did not have reliable data sources for FFSW estimates, despite being an IHBSS city; and IHBSS was not conducted for FFSW in Zamboanga. Thus, FFSW values were extrapolated to Pasay and Zamboanga as if they were non IHBSS cities.

In non IHBSS PAHI cities with SHC data, SHC registers were the basis for estimating the number of RFSW. The first quarter (Q1) RFSW count rather than the full year count was used to conservatively estimate RFSW in non

IHBSS PAHI cities. This was done to avoid counting the same RFSW multiple times in the same calendar year. To estimate FFSW in non IHBSS PAHI cities, extrapolation was based on the proportion of RFSW among all FSW in IHBSS cities. For example, in non NCR FSW IHBSS cities, the median proportion of RFSW among all FSW was 0.677, while in NCR IHBSS cities, the median was 0.744. These proportions were then applied to the number of RFSW based on SHC records for the other PAHI cities. In PAHI cities without SHC data, a population percentage of 0.2% of the female population aged 15-49 years was used for extrapolation. These percentages were based on the average of the high estimate of RFSW (0.24%) and FFSW (0.15%) from the 2011 size estimates. The percentage for the lower bound (0.1%) and upper bound (0.3%) applied was also based from these percentages.

In all other cities and class 1 municipalities (i.e. those that were not PAHI cities but had SHC data, including municipalities below first class), the Q1 RFSW count was added to the FFSW estimate, which was calculated by multiplying 0.07% to the 15 to 49-year-old female population. This percentage was based on the low estimate of FFSW from the 2011 size estimates. In all other areas of the country the population of FSW was estimated to be effectively zero.

Table 8. Summary of city level estimates for FSW (direct and extrapolated)

Type of Area	SHC data available	Source/extrapolation factors			Lower & Upper Range
		RFSW estimate	FFSW estimate	Overall FSW estimate	
IHBSS cities	Yes	SHC 2014 counts (full year) adjusted for double counting	Consensus estimate from PSE methods, adjusted for bias	Sum of RFSW and FFSW estimates	L: SHCQ1 2015 + consensus FFSW U: SHC 2014 (unadjusted) + consensus FFSW
Non-IHBSS-PAHI, NCR cities	Yes	SHC Q1 2015 counts	$\frac{\text{RFSW}}{(1/(0.74)^{16} - 1)}$	Sum of RFSW and FFSW estimates	L: SHC Q1 2015 counts U: SHC Q1 2015 + RFSW / (1/(0.50)-1)
Non-IHBSS-PAHI, non-NCR cities	Yes*	SHC Q1 2015 counts	$\frac{\text{RFSW}}{(1/(0.677^{17})-1)}$	Sum of RFSW and FFSW estimates	L: SHC Q1 2015 counts U: SHC Q1 2015 + RFSW / (1/(0.40)-1)
Non-IHBSS PAHI, non NCR cities	No			0.2% of females 15-49	L: 0.1% of females 15-49 U: 0.3% of females 15-49
Non-PAHI chartered cities & municipalities	Yes	SHC Q1 2015 counts	0.07% of females 15-49	Sum of RFSW and FFSW estimates	L: SHC Q1 2015 U: SHC 2014 counts + 0.07% of females 15-49
Non-PAHI chartered cities & class 1 municipalities	No			0.2% of females 15-49	L: 0.1% of females 15-49 U: 0.3% of females 15-49
All other areas				Effectively 0	

\*Note: if SHC Q1 counts were <0.2% of females 15-49, then these cities were treated as if they did not have SHC data, i.e. 0.2% of females 15-49 was used as the total FSW estimate.

The size of the FSW population at provincial level reflects the sum of FSW in chartered cities and Class 1 municipalities in the province. The regional and national level best estimates and lower and upper boundaries represent the sum of corresponding provinces.

<sup>16</sup> The figure 0.74 is the percentage of RFSW among all FSW in Quezon City which is the only NCR IHBSS city with a FFSW and RFSW sample.

<sup>17</sup> The figure 0.677 is the median percentage of RFSW among all FSW in non NCR IHBSS cities.

**c. For IDU:**

There were only two IHBSS sites offering direct estimates of IDU - Cebu City and Mandaue City. Given that these two cities represent the most concentrated areas of IDU, the methods for obtaining national, regional estimates for IDU population size were more similar to the 2011 estimates with some adjustments.

In Cebu province the information obtained from the direct estimates of male IDU in Cebu City and Mandaue City were used to come up with a population percentage applied to the 15 to 49-year-old male population. Program experience in neighboring cities where IDU HIV cases have been identified were believed to have substantially higher IDU numbers than the 0.02-0.04% used in the previous estimates exercise. In these cities a population percentage of 0.33% of the male 15-49 population was used as these are the surrounding areas proximate to Cebu and Mandaue. This figure reflects about 1/6 of the concentration of IDU estimated in Cebu.

As stated in the 2011 size estimation, around 10% of the total IDU estimates are female (IHBSS 2009, 2010 & 2011). However, for this current size estimation, no available estimates for female IDU will be released due to limited data availability. Likewise, IHBSS for female IDU was only conducted for 1 surveillance site, Cebu City.

The 2008 Dangerous Drugs Board (DDB) Survey was used as the basis for national PSE for IDU in the 2011 estimates exercise. Estimating 2-4% of the population had ever tried drugs, and 0.89% of drug users had injected drugs, the estimated population percentage of males 15-49 who had ever injected drugs ranges from 0.02-0.04%. The percentage of the population who ever used drugs in the country is consistent with the more recent 2012 DDB Survey at 4.24%. However, the more recent study does not have data available at the regional level. Thus, for this current estimation, the 2008 regional data was used.

The 2008 DDB survey provides regional estimates of the percentage of adults who have tried drugs. The percentages ranged from 0.4% in Region 2, to 17.3% in Region 6. This variation in the DDB survey results suggested that the population percentage of IDU in the region might also vary. Given the moderate correlation between percentage of those who ever tried drug and those who have injected in the last 12 months, we created two categories of regions. Those regions where >10% of the population had ever tried drugs were assigned twice the value used in the 2011 estimates, 0.04-0.08% of the male population 15-49. Those regions where <10% of the population had ever tried drugs remained at the 0.02-0.04% of males 15-49 range for number of IDU. In Region 7, the remaining male population 15-49 (i.e. cities other than Cebu, Mandaue, and the four neighboring, high concentration IDU cities) were categorized as a lower concentration area (population percentage of 0.02-0.04% were applied).

Table 9. Regions categorized by higher and lower ever drug use (DDB, 2008)

Region	% who ever used drugs (DDB, 2008)	IDU concentration category	Population percentage of males 15-49
1	3.61%	Lower	0.02-0.04%
2	0.43%	Lower	0.02-0.04%
3	4.98%	Lower	0.02-0.04%
4A	7.00%	Lower	0.02-0.04%
4B	1.49%	Lower	0.02-0.04%
5	1.24%	Lower	0.02-0.04%
6	17.31%	Higher	0.04-0.08%
7	14.31%	Higher	0.32-0.82%*
8	4.26%	Lower	0.02-0.04%
9	4.66%	Lower	0.02-0.04%
10	14.93%	Higher	0.04-0.08%
11	5.78%	Lower	0.02-0.04%
12	14.93%	Higher	0.04-0.08%
CARAGA	12.39%	Higher	0.04-0.08%
NCR	5.07%	Lower	0.02-0.04%
CAR	1.12%	Lower	0.02-0.04%

\*Direct estimates used and 0.02-0.04% for other areas outside high IDU concentration

\*\*The 2 provinces of Negros Region were previously part of Region 6 and Region 7. But Negros Region was classified in the lower category (0.02-0.04%) as there were none to minimal reported cases in the HIV registry.



## Key Results

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### **A. City specific direct estimates**

#### a. For MSM:

Males who have sex with males (MSM) are defined as those who are born male, 15 years or older, had oral or anal sex with a male in the past 12 months and lived, worked or socialized in the city where the IHBSS was conducted. This definition covers all MSM regardless of their gender identity or reasons for having sex with males (transactional or not). Of the 35 IHBSS MSM sites, 13 Non-NCR and 9 NCR cities obtained consensus-adjusted PSE results above the minimum population percentage of males aged 15-49 years believed plausible (1.7% in non-NCR areas and 2.0% in NCR cities). The remaining 13 cities had limited direct size estimation data or other methodological challenges and relied on extrapolated results.

Among non-NCR IHBSS cities the population percentages ranged from 1.9% to 4.0% and in the NCR IHBSS cities the population percentage ranged from 2.2-5.4% of the male population aged 15-49. These values represent the size of the population of males and transgender women, 15 to 49 years old, who had anal or oral sex with a male in the past 12 months. Both venue and non-venue based MSM are included in these estimates. Table 10 summarizes these adjusted consensus estimates.

Estimates of the proportion of TGW sub-group from among all MSM was 23% in both NCR and non-NCR IHBSS cities and ranged from 10-47%. For the proportion of male transactional workers among MSM, the median figure for all sites was 16% (15% for NCR and 16% for Non-NCR) and this was used for extrapolation. The median figure for MSM selling sex to clients from entertainment establishments across 35 sites was 1.83% but ranged widely from 0% to 16%.

Annex 3A provides the results of specific methods used and the bias adjustments applied for each IHBSS city. The table summarizes how the unadjusted direct estimates were used to come up with the adjusted and final consensus figure on a city by city basis. The results from the different methods can be compared and the extreme estimates are highlighted indicating possible quality issues in the data sources. Annex 3B provides the results by direct size estimation method and a summary of the unadjusted estimate, adjusted estimate, and bias adjustments relevant to that method. The adjustment factor used per method (mapping and PM) for each city is indicated as well. Annex 4 shows the estimated number of MSM selling sex to clients from entertainment establishments and two categories of MEW by city.

Table 10. Adjusted consensus MSM/TGW estimates from IHBSS cities (direct and extrapolated)

City	Province	Region	Overall MSM Counts	Lower Range	Upper Range	Overall MSM %
Non-NCR Cities in IHBSS						
Cebu	Cebu	7	9600	3300	15800	4.0%
Angeles	Pampanga	3	3300	2000	5500	3.7%
Batangas	Batangas	4A	3000	1800	7400	3.7%
Bacoor*	Cavite	4A	5200	4200	9200	3.7%
Antipolo*	Rizal	4A	6800	5500	11900	3.7%
Imus*	Cavite	4A	3000	2500	5300	3.7%
Puerto Princesa	Palawan	4B	2100	1800	3800	3.6%
General Santos	South Cotabato	12	5000	3300	8500	3.3%
San Jose Del Monte*	Bulacan	3	3600	2700	4500	3.0%
Lipa*	Batangas	4A	2300	1700	2800	3.0%
Cagayan de Oro	Misamis Oriental	10	4500	3000	6500	2.7%
Mandaue	Cebu	7	2400	1500	4500	2.5%
Talisay	Cebu	7	1300	1100	1500	2.4%
Davao	Davao del Sur	11	9300	6500	13400	2.4%
Butuan	Agusan del Norte	CARAGA	1900	1000	3500	2.4%
Baguio	Benguet	CAR	2000	1600	2500	2.2%
Zamboanga*	Zamboanga del Sur	9	4700	3600	6300	2.2%
Bacolod	Negros Occidental	6	2800	2400	3300	2.0%
Iloilo	Iloilo	6	2200	1200	3100	1.9%
NCR Cities in IHBSS						
Quezon City	Metro Manila	NCR	41300	19000	64000	5.4%
Pasig	Metro Manila	NCR	7500	5000	12000	4.0%
San Juan	Metro Manila	NCR	1200	900	2000	3.8%
Manila	Metro Manila	NCR	15500	10500	19500	3.4%
Pasay	Metro Manila	NCR	3500	2400	4900	3.1%
Markina	Metro Manila	NCR	3400	2800	4100	2.9%
Caloocan	Metro Manila	NCR	10800	7700	15700	2.6%
Mandaluyong	Metro Manila	NCR	2400	1800	3000	2.6%
Las Pinas*	Metro Manila	NCR	3700	2500	4500	2.5%
Paranaque	Metro Manila	NCR	4000	3500	4900	2.5%
Makati*	Metro Manila	NCR	3700	2500	4400	2.5%
Navotas*	Metro Manila	NCR	1700	1200	2100	2.5%
Malabon*	Metro Manila	NCR	2500	1700	3000	2.5%
Valenzuela	Metro Manila	NCR	4000	2800	4900	2.4%
Muntinlupa	Metro Manila	NCR	2800	2100	3600	2.3%
Taguig	Metro Manila	NCR	4000	3100	5500	2.2%

\*Extrapolated values

**b. For FSW:**

The FSW estimates represent women of 15-49 years old who sold sex in the past month in either registered entertainment establishments or through freelance solicitation. Both venue-based and non-venue-based FSW were included in this estimate.

Eight of the cities with IHBSS for FSW in 2013 and 2015 had both FFSW and RFSW estimates. Only one of these cities, Quezon City, is in the NCR.<sup>18</sup> The population percentage of FSW among females aged 15-49 in IHBSS cities ranged from 0.3%-14.5%, indicating great diversity in the concentration of FSW in different areas of the country. Similarly, the proportion of FSW who were RFSW ranged considerably, from 27.7% to 97.7%.

Annex 5 provides the city-specific results of the FSW direct estimates for RFSW and FFSW in the IHBSS cities.

<sup>18</sup> An FFSW IHBSS was conducted in Pasay, however, the PSE obtained were inconsistent and perceived to be unreliable and was not used.

Table 11. Estimates of FSW in IHBSS cities

City	Province	Region	Overall FSW Counts	% FSW among females 15-49	% of FSW who are RFSW
Angeles	Pampanga	3	13,400	14.5%	97.1%
Baguio	Benguet	CAR	1,100	1.2%	75.4%
Cebu	Cebu	7	2,600	1.0%	77.4%
Cagayan de Oro	Misamis Oriental	10	1,400	0.9%	67.7%
Iloilo	Iloilo	6	1,000	0.8%	41.6%
General Santos	South Cotabato	12	1,000	0.7%	27.7%
Quezon City	Metro Manila	NCR	4,700	0.6%	74.4%
Davao	Davao del Sur	11	1,400	0.3%	70.1%

### c. For IDU:

Injecting drug users are defined as those 15 years or older who had injected drugs for non-medical purposes in the past six months. Direct estimates come from two IHBSS IDU cities in Cebu City and Mandaue. These two cities are in close proximity and may share overlapping networks of IDU. These two cities represent the highest concentration areas of IDU in the Philippines and are not believed to be generalizable. The population percentage resulting from the consensus adjusted estimates were 1.80% in Cebu and 1.89% in Mandaue. While the population percentage is lower in Cebu city, the general population size is much larger than Mandaue. The absolute number of IDU estimated for Cebu City is about twice the number in Mandaue. Annex 6 provides the results of city-specific methods used for male IDU in Cebu and Mandaue, and the bias adjustments applied.

Table 12. Adjusted consensus IDU estimates from IHBSS cities

City	Province	Region	Total IDU	Lower	Upper	Total IDU %
Cebu	7	Cebu	4300	2200	6200	1.80%
Mandaue	7	Cebu	1800	1500	3700	1.89%

## B. Extrapolation results

As described in the methodology section, extrapolation based estimates were calculated at the city level, then aggregated to provincial, regional, and national levels. Table 13 presents the results at the national level showing the absolute number and population percentage of MSM, male IDU, and FSW estimated.

The national estimate of MSM was 531,500 or 2.2% (1.8%-3.2%) of males aged 15-49 years. Of this MSM population, 23% were estimated to be TGW (or about 0.50% of males age 15-49 years) while 16% were estimated to be male transactional workers (or 0.36% of the male 15-49 population). Meanwhile, the estimate of combined RFSW and FFSW was 66,100 or 0.28% (0.19%-0.40%) of females aged 15-49. Finally, the national estimated IDU population was 10,000 to 21,700 (0.04% to 0.09%) of males aged 15-49. Annex 8 provides national and regional estimates. Annex 9 provides city level estimates for PAHI cities. Annex 10 provides the provincial and city level estimates for MSM (including TGW and MSW), and FSW. Annex 11 provides city level estimates of male IDU in Cebu Province.

Table 13. National estimates of key affected populations

KAP	Total Male Population (15-49)	Best Estimate	Range	KAP	Total Female Population (15-49)	Best estimate	Range
<b>MSM</b>	24,435,734	531,500 (2.2%)	429,200-729,900 (1.8-3.3%)	<b>FSW</b>	23,849,921	66,100 (0.28%)	45,600-95,300 (0.19-0.40%)
<b>IDU</b>		-	10,000-21,700 (0.04-0.09%)				

City level estimates for IDU (except those six cities in Cebu province), were not generated due to the lack of reliable local information. However, the cities which have IDU HIV cases reported over the last five years (i.e. 2010-2015) are likely to be the cities where the IDU in that region are more likely to be concentrated. Annex 7 shows the list of cities which have more than five IDU HIV cases reported from 2010-2015 by region.

## Discussion and Recommendations

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### ***A. Comparison of results to previous estimates***

The 2015 national size estimate for MSM fall within the range of the 2011 MSM estimate. However, the city-specific direct estimates show wide variation in the population percentage of MSM among males 15-49 years old. This underscores the importance of using direct methods to obtain local data to determine the size of MSM populations for program planning, budgeting and target setting. Given the growing importance of providing services to MSM clients in controlling the HIV epidemic, efforts to obtain reliable local PSE is a critical investment to mount an effective response.

For FSW, the national estimates were lower than the estimates in 2011. Size estimates for FSW relied heavily on SHC counts of RFSW which comprised two-thirds of all FSW, based on data from eight IHBSS cities with estimates of both RFSW and FFSW. However, there is greater uncertainty about the size of the FFSW portion of the population and the overlap between RFSW and FFSW populations.

The results for IDU size estimates are naturally more localized due to the more limited areas where injecting drug use occurs. However, when summed to the national level, this represents a figure on the higher end of the 2011 estimates. It should be noted that the 2011 estimate included both males and females, while the current estimate was based only on data from male IDU. However, the current size estimation exercise made use of direct estimation methods in key cities (Cebu and Mandaue) and routine source of data such as HIV case reports to extrapolate the size of IDU to more local areas where injecting drug use is an emerging issue.

Overall, this size estimation exercise produced results which were consistent with field experience of local stakeholders and other national level sources of data. This exercise builds on previous efforts of size estimation in the country by collecting data during the IHBSS to improve the quality of data used in multiplier calculations and to possible selection biases in the population represented by the IHBSS sample.

The population percentages calculated and used for extrapolation were based on general population denominators from the 2010 census, the most recent available round conducted in the Philippines. Given that the general population numbers in many cities have increased since 2010, it is possible to calculate a revised absolute number of KAP using projected general population estimates for 2015. This is appropriate for cities which were assigned extrapolated values for the PSE. Similarly, cities which had satisfactory adjusted direct estimates can recalculate their KAP percentage against projected general population numbers for 2015.

### ***B. Limitations***

A few key limitations should be considered when interpreting the results of this size estimation exercise. First, the direct size estimates were based on data from IHBSS sites, which in general are cities which are currently witnessing a rise in their concentrated HIV epidemic. As such, strategic information with regard to higher concentrations of KAP is available for these cities more than others. Without direct estimates from a wider range of cities with lower level epidemics among the KAP it is difficult to validate whether the extrapolated values reflect actual numbers.

Despite efforts to apply multiple direct methods and apply systematic adjustments, intracity ranges of estimates from different approaches did not always converge. In these cases, expert opinions by local stakeholders were used to select the best estimate from among the direct method results.

The extrapolation process for MSM and IDU size to non-IHBSS chartered cities and first class municipalities relied heavily on HIV case report data. However, these data overrepresent older infections (i.e. individuals who get tested when detecting symptoms) and people prone to accessing services. In some parts of the country, factors such as stigma, lack of awareness, and/ or availability of convenient KAP-friendly testing services may play a bigger factor in the number of HIV cases reported than the size of the actual PLHIV population. Furthermore, the 'MSM' or 'IDU' risk behavior is not always accurately reflected in HIV case reports in areas

where programs are new or where stigma is greater, and this can also skew how HIV cases per capita data are used to categorize cities for purposes of extrapolating size estimates.

### ***C. Recommendations for future size estimation and related data collection and analysis***

When large scale, intensive data collection activities such as the IHBSS take place, adding components that support unique object or program multipliers and enhanced mapping size estimation is cost effective and provides useful information that can be triangulated with expert opinion from local stakeholders.

Although the mathematical formula is simple, all of the direct size estimation methods benefit from engaging local experts from a variety of perspectives to assess the presence of common sources of bias. The involvement of local stakeholders in developing consensus estimates also provides important opportunities to understand who ought to be included in the population estimated (i.e. subgroups to be considered) and how to interpret and use the results. Local ownership and buy-in around local size estimates ensure that the results can be used to improve how resources are allocated and services are provided to KAP.

Fundamental to obtaining better size estimates for FSW will be the improvement of the quality of SHC counts. This will also avoid or detect duplicate registration of the same individual at an SHC during the same calendar year. Future estimates will benefit from having data on the FFSW subgroup in more local areas as well as a better understanding of the degree of duplication resulting from FSW who does both freelance and registered sex work.

Moreover, ensuring accurate program counts of HIV testing and Global Fund or project reach will result to higher confidence in the program multiplier size estimates results. Some Social Hygiene Clinics (SHC) do not clearly categorize their clients by KAP. Encouraging SHCs to document their program data by KAP would not only facilitate future size estimates rounds, but would also improve the facility's understanding of their clientele to provide better services. Double-counting cannot be accounted for in most areas, especially in terms of reach and HIV testing. Measures to document and reduce double-counting would prevent overestimation or underestimation in future rounds of KAP size estimates.

## Annex 1. Direct size estimate method protocols

### A. Protocol for MSM Mapping

As part of sampling frame development for the time location cluster sampling of MSM, field teams interviewed key informants to generate a listing of venues where the target population can be found. Where available, mapping teams used recent mapping data conducted by programs to generate the list of venues.

Mapping teams visited each venue during a high volume operational time to validate whether the venue was still active, and to interview a number of (1-3) "venue" informants who could describe the volume and patterns of movement of the KAP at the venue. Mapping teams asked key informants two questions used to generate mapping-based PSE.

"Think about last Saturday night between the hours of 9pm and 1 am, how many people (describe the survey group population), such as those we have been talking about do you think would come to this place (refer to the venue that they are in) during that time?"<sup>19</sup>

The mapping team confirmed that last Saturday (or this Saturday) was a typical Saturday, i.e. there was not a special event or issue that would make the number of people at the venue higher or lower than usual. If it was not a typical Saturday, the informant was asked to revise their estimate referencing a more typical Saturday from 9pm – 1 am.

After informants give their estimate, the team then asked a follow up question about people's movement, "So thinking about these (number given by informant) people at this venue during that time, how many of those people do you think are likely to go to another similar venue during that time period. "

This information is used to adjust for double counting individuals during the specified Saturday 9pm-1am time.

The IHBSS questionnaire included two question to adjust for infrequent visits to venues,

"Think about last Saturday night, specifically between the hours of 9pm and 1 am, did you go to any places to meet friends or sex partners such as (describe the types of venues that are included in the sampling frame, e.g. bars, massage parlors, cruising sites, etc.)?"

The proportion of respondents who did not go out the last Saturday night between the hours of 9pm and 1 am was used to inflate the number of people derived from summing the venue sizes for all the mapped venues:

$$\frac{\text{Sum across venues (number at the venue Sat 9pm-1am)} - (0.5 * \text{number who go to multiple venues})}{(\% \text{ IHBSS respondents went out last Saturday night 9 pm-1am})}$$

### B. Program/Service Multipliers:

For MSM and IDU populations, the primary source of program multipliers were HIV testing data from the Social Hygiene Clinic (SHC) records. In each site where MSM IHBSS was conducted the SHC log books were reviewed and assessed for quality. The number of MSM tested by month from March 2014-July 2015 were collated. Three time periods and corresponding counts of numbers of MSM tested were constructed corresponding to 3 months, 6 months, and 12 months prior to the start of the IHBSS in that site. The calendar time period varied according to the start date of each IHBSS site.

In the IHBSS questionnaire respondents are asked if they have ever been tested for HIV and the month and year of their last HIV test. Using these data, the percentage of respondents who received an HIV test in each of the three time periods were calculated, e.g.:

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<sup>19</sup>If the mapping team is at the venue on a Saturday, they should ask about that night, i.e.

"Think about tonight, between the hours of 9pm and 1 am, how many people do you think are likely to come tonight."

number of MSM tested 3 months prior to the IHBSS start date  
% of MSM respondents who were tested during the 3 months prior to the IHBSS start date

PM for FFSW were constructed from SHC records on counts of FFSW who came to the clinic for a cervical smear and exam over a 12 month period prior to the start of the IHBSS. Respondents in the FFSW IHBSS were asked a corresponding question about coming to the SHC during the designated time period for a cervical smear and exam.

In addition to the multipliers based on HIV testing services, Global Fund program reach data was also used. The Department of Health already receives reports on the numbers of individuals reached through Global Fund prevention services (by KAP) over a six month period. In the IHBSS respondents were asked about receiving Global Fund services over a one year period. Due to this mismatch in questions and existing program data, the Global Fund reach multiplier was calculated two ways.

First,

Sum of number reached by GF in 2 six-month periods – (0.5\*% of those reached in both periods)  
% of respondents who were reached by Global Fund programs over a one year period

Second,

number reached by GF in a six-month period (adjusted for possible double counting)  
% of respondents who were reached by GF programs over a one year period.

### **C. Unique object multiplier with a physical object distribution (PUO):**

The unique object multiplier with a physical object distribution was used in selected sites-groups. The unique object used for each IHBSS site was a card providing information about services with a distinct color and logo for each city. Because respondents were eligible if they worked, lived, or socialized in the IHBSS city, it was possible for the same respondent to participate in the IHBSS and receive unique objects from more than one city.

Unique objects were distributed through both peer educators and specially hired unique object distributors from the KAP who traveled to venues with the mapping teams during sampling frame development to distribute objects to eligible persons. The unique object distribution was done for 10 days and a 3-day orientation was conducted prior to the start of the IHBSS field work. Distributors were given training to optimize the spread of objects throughout known venues within the city as well as to control the tracking of objects given to individuals. This includes confirming IHBSS eligibility and ensuring the individual had not already received a unique object from that city from another person.

A variation of the unique object multiplier was used for the MSM IHBSS, in which distributors tracked the number of objects given to individuals who had different risk characteristics, specifically whether and how recently potential respondents had anal sex with another male in the last 12 months. Three categories were constructed: no anal sex in the past 12 months, anal sex more than 3 months but less than 12 months ago, or anal sex in the last 3 months. Collecting this information allowed us to calculate the unique object based size estimate for the sample as a whole as well as for each risk category. This variation was used to assess whether the IHBSS sample achieved a representative proportion of men in the different risk categories. And allowed for the unique object multiplier to be less biased if the sample over-represented high or low risk MSM.

To correspond to the physical unique object distribution, the following question were added to each questionnaire where PUO is included,

“Have you received this object [show a picture or physical example] during [describe calendar time for when objects were distributed in that survey-site]”

Interviewers showed examples of the different unique objects distributed in the IHBSS city and adjacent areas, when applicable. Respondents were asked to show the object if they had it with them, and to confirm how many and from whom they received the object.

## Annex 2. Bias adjustment formula for direct city specific estimates

### For MSM/TG:

#### Bias factors assessed by stakeholders:

- A1. Venues not included in the mapping.
- A1a. Unmapped venues were small.
- A1b. Areas of the city not included in mapping.
- A2. Many people are not venue based.
- A3. People who knew they were HIV positive did NOT participate in the IHBSS.
- A4. People who had been tested for HIV recently did NOT want to participate.
- A5. People reached by GF were more likely to participate in the IHBSS.
- A8. Those who test negative are likely to be tested more than once in a year?
- A8a. How many times on average will a person get tested?
- A9. Double counting of individuals in a 6 month reporting period of GF reach
- A9a. Those received services from a GF program, how many times will she be contacted
- A10. Those reached in one 6 month reporting period are likely to be reached in the next 6 month reporting period.

#### Mapping adjustments:

$$\text{Adjusted mapping} = (\text{Unadjusted mapping}) * (1 + 0.25 * A1) * (1.1 - (0.25 * A1a))$$

#### Program Multiplier adjustments:

$$\begin{aligned} \text{Adj 3 mo testing multiplier} &= (\text{Unadj 3 mo testing}) / (1 + 0.25 * A4) \\ \text{Adj 6 mo testing multiplier} &= (\text{Unadj 6 mo testing}) / (1 + 0.25 * A4) \\ \text{Adj 12 mo testing multiplier} &= (\text{Unadj 12 mo testing}) / (1 + 0.25 * A4 + 0.25 * A8 * A8a) \\ \text{Adj GF year multiplier} &= (\text{Unadj GF year}) * (1 + 0.25 * A5) / (1 + 0.25 * A9 * A9a + 0.25 * A10) \\ \text{Adj GF 6 mo multiplier} &= (\text{Unadj GF 6 mo}) * (1 + 0.25 * A5) / (1 + 0.25 * A9 * A9a) \end{aligned}$$

#### Overall adjustments:

$$\begin{aligned} \text{Adj for survey limited by geography} &= \text{Consensus of Adj direct estimates} * (1 + 0.25 * A1 * (1 - 0.25 * A1a)) \\ \text{Adj for non-venue based sample} &= \text{Adj for survey limited by geography} * (1 + 0.25 * A2) \end{aligned}$$

### For IDU:

#### Bias factors assessed by stakeholders:

- B1. Those given unique objects were likely to be unconnected to other IDU.
- B2. Unique objects distributed close to RDS center.
- B3. Those who knew they were HIV positive did not want to participate in the IHBSS.
- B4. Those tested for HIV recently did not want to participate in the IHBSS.
- B5. Those reached by GF were more likely to participate in the IHBSS.
- B6. Many were not connected to the network sampled by the IHBSS.
- B7. Those who test negative are likely to be tested more than once a year
- B7a. Number of times on average a person will get tested
- B8. Double counting individuals reached in a 6 mo reporting period
- B8a. Number of times person receives service from GF in a 6 month period
- B9. Those reached by GF in a 6 mo period are likely to be reached in the next 6 mo period

#### Unique object adjustments:

$$\text{Adj UO estimate} = (\text{Unadjusted UO estimate}) * (1 + 0.25 * B1 + 0.25 * B2)$$

#### Program Multiplier adjustments:

$$\begin{aligned} \text{Adj 3 mo testing multiplier} &= (\text{Unadj 3 mo testing}) / (1 + 0.25 * B4) \\ \text{Adj 6 mo testing multiplier} &= (\text{Unadj 6 mo testing}) / (1 + 0.25 * B4) \\ \text{Adj 12 mo testing multiplier} &= (\text{Unadj 12 mo testing}) / (1 + 0.25 * B4 + 0.25 * B7 * B7a) \\ \text{Adj GF year multiplier} &= (\text{Unadj GF year}) * (1 + 0.25 * B5) / (1 + 0.25 * B8 + 0.25 * B8a + 0.25 * B9) \\ \text{Adj GF 6 mo multiplier} &= (\text{Unadj GF 6 mo}) * (1 + 0.25 * B5) / (1 + 0.25 * B8 + 0.25 * B8a) \end{aligned}$$

#### Overall adjustments:

$$\text{Adj for survey limited by network} = \text{Consensus of Adj direct estimates} * (1 + 0.25 * B6)$$



**For FFSW:**

Bias factors assessed by stakeholders:

- C1. Many venues not included in the mapping
- C1a. Most unmapped venues were small venues
- C2. Many FFSW are non-venue based

Mapping adjustments:

$$\text{Adj mapping estimate} = (\text{Unadj mapping}) * (1 + C1 * (1 - 0.25 * C1a))$$

Program multiplier adjustments:

$$\text{Adj Program Multiplier estimate} = (\text{Unadj program multiplier}) * (1 + C1 * (1 - 0.25 * C1a))$$

Overall adjustments:

$$\text{Adj for non-venue based FFSW} = (\text{Adj direct estimate}) * (1 + 0.25 * C2)$$

## Annex 3a. City-specific MSM results

Note: Red highlighted data indicates possible quality issue in data sources

	Unadjusted			Survey Adjusted			Fully adjusted Consensus		
	Point estimate	Lower	Upper	Point estimate	Lower	Upper	Point estimate	Lower	Upper
<b>Angeles</b>									
Mapping Sat 9pm - 1am	705	568	895	917	738	1163			
<b>Consensus</b>	<b>700</b>	<b>550</b>	<b>900</b>	<b>1500</b>	<b>500</b>	<b>2500</b>	<b>3300</b>	<b>2000</b>	<b>5500</b>
<b>Bacolod</b>									
Mapping Sat 9pm - 1am	1598	1364	1923	1881	1644	2193			
PM 3 mo testing	1420	457	4646	1125	415	3172			
PM6 mo testing	1037	407	2778	835	356	2041			
PM12 mo testing	921	400	2217	334	156	745			
<b>Consensus</b>	<b>1700</b>	<b>1000</b>	<b>2500</b>	<b>1000</b>	<b>400</b>	<b>2000</b>	<b>2800</b>	<b>2400</b>	<b>3300</b>
<b>Bacoor</b>									
Mapping Sat 9pm - 1am	984	838	1178	1335	1182	1522			
UO - adjusted for risk	1052			982					
<b>Consensus</b>	<b>1000</b>	<b>800</b>	<b>1200</b>	<b>1200</b>	<b>1000</b>	<b>1500</b>	<b>1800</b>	<b>1500</b>	<b>2200</b>
<b>Baguio</b>									
Mapping Sat 9pm - 1am	984	903	1081	1070	982	1176			
UO - adjusted for risk	1624			1624					
<b>Consensus</b>	<b>1300</b>	<b>1000</b>	<b>1600</b>	<b>1300</b>	<b>1000</b>	<b>1600</b>	<b>2000</b>	<b>1600</b>	<b>2500</b>
<b>Batangas</b>									
Mapping Sat 9pm - 1am	727	666	813	881	808	986			
UO - adjusted for risk	794			794					
<b>Consensus</b>	<b>750</b>	<b>650</b>	<b>800</b>	<b>2000</b>	<b>1200</b>	<b>5000</b>	<b>3000</b>	<b>1800</b>	<b>7400</b>
<b>Butuan</b>									
Mapping Sat 9pm - 1am	850	741	997	1031	898	1209			
PM3 mo testing	2295	1041	5192	2295	1041	5192			
PM6 mo testing	3921	2055	7639	3921	2055	7639			
PM12 mo testing	3388	1869	6316	1694	934	3158			
<b>Consensus</b>	<b>1400</b>	<b>850</b>	<b>1800</b>	<b>1550</b>	<b>1000</b>	<b>2100</b>	<b>1900</b>	<b>1000</b>	<b>3500</b>
<b>Caloocan</b>									
Mapping Sat 9pm - 1am	732	690	789	796	750	858			
PM3 mo testing	5416	3717	8108	4333	2974	6486			
PM6 mo testing	8452	6006	12286	6762	4805	9829			
PM12 mo testing	11240	8373	15656	4995	3721	6958			
UO - adjusted for risk	3502			3652					
<b>Consensus</b>	<b>7500</b>	<b>5000</b>	<b>10000</b>	<b>6800</b>	<b>4800</b>	<b>9800</b>	<b>10800</b>	<b>7700</b>	<b>1570</b>
<b>Cagayan de Oro</b>									
Mapping Sat 9pm - 1am	1335	1223	1467	1619	1483	1778			
PM3 mo testing	2995	1717	5369	2396	1374	4295			
PM6 mo testing	3349	2390	4774	2679	1912	3819			
PM 12 mo testing	3830	3009	4961	2189	1719	2835			
PM GF 6-mo reach	7609	6571	8974	7609	6571	8974			
UO - adjusted for risk	1325			1325					
<b>Consensus</b>	<b>3400</b>	<b>2400</b>	<b>5000</b>	<b>2500</b>	<b>1700</b>	<b>3650</b>	<b>4500</b>	<b>3000</b>	<b>6500</b>
<b>Cebu</b>									
Mapping Sat 9pm - 1am	968	885	1083	1137	1040	1273			
PM 3 mo testing	513	323	828	410	258	663			
PM 6 mo testing	1526	1097	2163	1220	878	1730			
PM 12 mo testing	6717	5346	8583	2985	2376	3815			
PMGF 6-mo reach	12105	10502	14135	10087	8752	11779			
UO - adjusted for risk	1600			1600					
<b>Consensus</b>	<b>4900</b>	<b>1000</b>	<b>12000</b>	<b>4900</b>	<b>1700</b>	<b>8000</b>	<b>9600</b>	<b>3300</b>	<b>1580</b>
<b>Davao</b>									
Mapping Sat 9pm - 1am	1141	993	1348	1312	1142	1550			
PM 3 mo testing	7070	4533	11370	4713	3022	7580			
PM 6 mo testing	9460	6060	15383	6307	4040	10255			
PM 12 mo testing	11891	8240	18010	3964	2747	6003			
PM GF 6-mo reach	15613	13205	19334	21858	18487	27067			
UO - adjusted for risk	3501			3501					
<b>Consensus</b>	<b>8000</b>	<b>5600</b>	<b>12000</b>	<b>4700</b>	<b>3300</b>	<b>6800</b>	<b>9300</b>	<b>6500</b>	<b>1340</b>

**General Santos**

Mapping Sat 9pm - 1am	882	747	1078	1146	971	1401			
PM 3 mo testing	6392	3106	13469	5114	2485	10776			
PM 6 mo testing	5480	3231	9482	4384	2585	7586			
PM 12 mo testing	6212	3768	10459	2259	1370	3803			
UO - adjusted for risk	3016			3016					
<b>Consensus</b>	<b>3742</b>	<b>1000</b>	<b>6000</b>	<b>2700</b>	<b>2200</b>	<b>5000</b>	<b>5000</b>	<b>3300</b>	<b>8500</b>

**Iloilo**

Mapping Sat 9pm - 1am	584	527	668	672	606	768			
PM 3 mo testing	996	418	2430	797	334	1944			
PM 6 mo testing	1072	535	2189	858	428	1751			
PM 12 mo testing	1284	829	2011	467	302	731			
<b>Consensus</b>	<b>1100</b>	<b>1000</b>	<b>1300</b>	<b>1300</b>	<b>400</b>	<b>1850</b>	<b>2200</b>	<b>700</b>	<b>3100</b>

**Mandaluyong**

Mapping Sat 9pm - 1am	606	563	663	863	803	945			
PM 3 mo testing	46	33	67	31	22	45			
PM 6 mo testing	169	124	237	113	83	158			
PM 12 mo testing	4367	3423	5727	1456	1141	1909			
<b>Consensus</b>	<b>2500</b>	<b>600</b>	<b>4300</b>	<b>1160</b>	<b>860</b>	<b>1500</b>	<b>2400</b>	<b>1800</b>	<b>3000</b>

**Malabon**

Mapping Sat 9pm - 1am	385	359	417	548	512	594			
PM 3 mo testing	1056	164	7143	845	131	5714			
PM 6 mo testing	667	194	2381	533	155	1905			
PM 12 mo testing	1094	382	3258	625	218	1862			
<b>Consensus</b>	<b>800</b>	<b>400</b>	<b>1100</b>	<b>650</b>	<b>250</b>	<b>1450</b>	<b>1100</b>	<b>430</b>	<b>2500</b>

**Makati**

Mapping Sat 9pm - 1am	1395	1172	1699	1605	1348	1954			
PM 3 mo testing	1335	770	2351	890	513	1567			
PM 6 mo testing	3042	1893	4978	2028	1262	3319			
PM 12 mo testing	3482	2437	5049	1161	812	1683			
<b>Consensus</b>	<b>2300</b>	<b>1300</b>	<b>3500</b>	<b>1400</b>	<b>900</b>	<b>2000</b>	<b>3000</b>	<b>2600</b>	<b>3800</b>

**Mandaue**

Mapping Sat 9pm - 1am	1034	916	1191	1124	996	1295			
PM 3 mo testing	2276	1072	4977	1517	715	3318			
PM 6 mo testing	3024	1767	5359	2016	1178	3573			
PM 12 mo testing	8348	5258	13728	4174	2629	6864			
<b>Consensus</b>	<b>2100</b>	<b>1000</b>	<b>3000</b>	<b>1500</b>	<b>950</b>	<b>2800</b>	<b>2400</b>	<b>1500</b>	<b>4500</b>

**Manila**

Mapping Sat 9pm - 1am	690	622	822	1208	1089	1438			
PM 3 mo testing	24073	12156	48418	12037	6078	24209			
PM 6 mo testing	20242	15110	27269	10121	7555	13635			
PM 12 mo testing	29663	23878	37035	11865	9551	14814			
PM GF 6-mo reach	44688	36460	55592	67032	54689	83388			
UO - adjusted for risk	1769			1769					
<b>Consensus</b>	<b>25000</b>	<b>20000</b>	<b>29000</b>	<b>7500</b>	<b>5000</b>	<b>9500</b>	<b>15500</b>	<b>10500</b>	<b>1950</b>

**Marikina**

Mapping Sat 9pm - 1am	871	840	924	1023	987	1085			
PM 3 mo testing	2640	1851	3825	1624	1139	2354			
PM 6 mo testing	2774	2145	3651	1707	1320	2247			
PM 12 mo testing	4448	3649	5499	1695	1390	2095			
PM GF 6-mo reach	7081	6248	8118	5901	5207	6765			
<b>Consensus</b>	<b>3500</b>	<b>1000</b>	<b>7000</b>	<b>2400</b>	<b>2000</b>	<b>2900</b>	<b>3400</b>	<b>2800</b>	<b>4100</b>

**Mutinlupa**

Mapping Sat 9pm - 1am	1093	761	1634	1120	780	1675			
PM 3 mo testing	2518	1407	4695	2014	1126	3756			
PM 6 mo testing	2253	1397	3854	1802	1117	3083			
PM 12 mo testing	2082	1457	3154	1665	1166	2523			
<b>Consensus</b>	<b>2300</b>	<b>2000</b>	<b>2500</b>	<b>1600</b>	<b>1000</b>	<b>2800</b>	<b>2800</b>	<b>1800</b>	<b>4900</b>

**Paranaque**

Mapping Sat 9pm - 1am	1968	1730	2270	2264	1990	2610			
PM 3 mo testing	1855	1260	2776	1855	1260	2776			
PM 6 mo testing	1424	971	2144	1424	971	2144			
PM 12 mo testing	3294	2474	4519	1647	1237	2259			
<b>Consensus</b>	<b>2100</b>	<b>1500</b>	<b>3200</b>	<b>1800</b>	<b>1400</b>	<b>2200</b>	<b>4000</b>	<b>3500</b>	<b>4900</b>

**Pasay**

Mapping Sat 9pm - 1am	705	580	879	846	696	1054			
PM 3 mo testing	3456	2085	5828	2765	1668	4663			
PM 6 mo testing	2552	1776	3763	2041	1421	3011			
PM 12 mo testing	3187	2458	4218	1416	1093	1875			
<b>Consensus</b>	<b>3000</b>	<b>2500</b>	<b>3500</b>	<b>2000</b>	<b>1400</b>	<b>2800</b>	<b>3500</b>	<b>2400</b>	<b>4900</b>

**Pasig**

Mapping Sat 9pm - 1am	618	552	705	618	552	705			
PM 3 mo testing	6425	4192	10050	5140	3354	8040			
PM 6 mo testing	8032	5548	11957	6425	4439	9565			
PM 12 mo testing	14760	10393	21609	6560	4619	9604			
PM GF 6-mo reach	12724	9876	17015	9096	7208	11867			
<b>Consensus</b>	<b>9700</b>	<b>6500</b>	<b>14800</b>	<b>5000</b>	<b>3300</b>	<b>8000</b>	<b>7500</b>	<b>5000</b>	<b>1200</b>

**Puerta Princesa City**

Mapping Sat 9pm - 1am	451	406	517	541	488	620			
PM 3 mo testing	1574	1051	2389	1259	840	1912			
PM 6 mo testing	1344	868	2117	1075	694	1693			
PM 12 mo testing	3264	2122	5112	1187	772	1859			
<b>Consensus</b>	<b>1400</b>	<b>500</b>	<b>3200</b>	<b>1200</b>	<b>800</b>	<b>1800</b>	<b>2100</b>	<b>1400</b>	<b>3100</b>

**Quezon City**

Mapping Sat 9pm - 1am	1417	1301	1567	1488	1366	1645			
PM 3 mo testing	25762	19069	35045	14721	10896	20026			
PM 6 mo testing	27812	20176	39002	15893	11529	22287			
PM 12 mo testing	40403	30568	54453	12432	9406	16755			
UO - adjusted for risk	12535			12535					
<b>Consensus</b>	<b>12000</b>	<b>9500</b>	<b>15000</b>	<b>33000</b>	<b>15000</b>	<b>50000</b>	<b>41300</b>	<b>19000</b>	<b>6400</b>

**San Juan**

Mapping Sat 9pm - 1am	1335	938	2003	1368	962	2053			
PM Time 12 mo testing	359	211	625	287	168	500			
<b>Consensus</b>	<b>850</b>	<b>300</b>	<b>1300</b>	<b>800</b>	<b>600</b>	<b>1300</b>	<b>1200</b>	<b>900</b>	<b>2000</b>

**Taguig**

Mapping Sat 9pm - 1am	112	85	150	1269	1114	1489			
PM 3 mo testing	954	729	805	1269	1114	1489			
PM 6 mo testing	1451	1138	1917	954	729	1282			
PM 12 mo testing	2814	2301	3554	1451	1138	1917			
<b>Consensus</b>	<b>760</b>	<b>680</b>	<b>830</b>	<b>1500</b>	<b>300</b>	<b>2000</b>	<b>4000</b>	<b>800</b>	<b>5000</b>

**Talisay**

Mapping Sat 9pm - 1am	719	644	818	871	781	992			
<b>Consensus</b>	<b>700</b>	<b>600</b>	<b>800</b>	<b>871</b>	<b>781</b>	<b>992</b>	<b>1300</b>	<b>1100</b>	<b>1500</b>

**Valenzuela**

Mapping Sat 9pm - 1am	1141	974	1360	1169	999	1394			
PM 3 mo testing	5607	2062	15385	5607	2062	15385			
PM 6 mo testing	5823	2553	13551	5823	2553	13551			
PM 12 mo testing	20772	9642	45565	10386	4821	22782			
<b>Consensus</b>	<b>1100</b>	<b>900</b>	<b>1300</b>	<b>2300</b>	<b>1100</b>	<b>4500</b>	<b>4000</b>	<b>2000</b>	<b>8000</b>

**Zamboanga**

Mapping Sat 9pm - 1am	824	734	936	1071	954	1217			
PM 6 mo testing	487	268	899	325	179	599			
PM 12 mo testing	1535	1080	2232	767	540	1116			
<b>Consensus</b>	<b>2200</b>			<b>1200</b>	<b>600</b>	<b>1500</b>	<b>2300</b>	<b>1100</b>	<b>2800</b>

**Annex 3b. Impact of bias assessment on size estimates, by PSE method**

Method 1. Mapping Sat 9pm - 1am, adjusted for mobility and frequency

City	Unadjusted		Adjusted with bias assessment		Adjustment factor (Adjusted/ unadjusted estimate)	Average adjustment factor	
	Point Estimate	Pop %	Point Estimate	Pop %			
San Juan	1335	4.20%	1368	4.31%	1.03	1.03	
Talisay	719	1.33%	871	1.61%	1.21	1.15	
Paranaque	1968	1.21%	2264	1.39%	1.15		
Bacolod	1601	1.17%	1881	1.38%	1.18		
Baguio	984	1.10%	1070	1.20%	1.09		
Mandaue	1034	1.08%	1124	1.18%	1.09		
Butuan	850	1.05%	1031	1.28%	1.21		
Lipa	755	0.99%	821	1.08%	1.09		
Makati	1395	0.95%	1605	1.09%	1.15		
Mutinlupa	1093	0.90%	1120	0.93%	1.03		1.21
Batangas	727	0.88%	881	1.07%	1.21		
CDO	1335	0.81%	1619	0.98%	1.21		
Angeles	705	0.80%	917	1.04%	1.30		
Bacoor	1101	0.78%	1335	0.94%	1.21		
PPC	451	0.77%	541	0.77%	1.00		
Marikina	871	0.75%	1023	0.88%	1.18		
Valenzuela	1141	0.69%	1169	0.71%	1.03		
Mandaluyong	606	0.66%	863	0.93%	1.43		
Pasay	705	0.63%	846	0.75%	1.20		
Gen San	882	0.59%	1146	0.76%	1.30	1.32	
Navotas	369	0.54%	525	0.76%	1.43		
Iloilo	584	0.51%	672	0.59%	1.15		
SJDM	521	0.43%	612	0.50%	1.18		
Cebu	968	0.41%	1137	0.48%	1.18		
Malabon	385	0.39%	548	0.56%	1.43		
Zamboanga	824	0.39%	1071	0.51%	1.30		
Taugig	686	0.38%	1269	0.70%	1.85		
Pasig	618	0.33%	618	0.33%	1.00		
Antipolo	572	0.31%	572	0.31%	1.00		
Davao	1141	0.29%	1312	0.33%	1.15	1.05	
Imus	207	0.25%	434	0.53%	2.10		
QC	1417	0.18%	1488	0.19%	1.05		
Caloocan	732	0.18%	796	0.19%	1.09		
Manila	690	0.15%	1208	0.26%	1.75		

## Method 2a. PM – 3 month HIV testing

City	Unadjusted 3 mo		Adjusted	Adjustment factor	Ave adjustment factor
	Point estimate	Pop %	Pop %		
<b>Manila</b>	<b>24073</b>	<b>5.22%</b>	<b>2.61%</b>	<b>0.50</b>	0.78
Gen San	6392	4.26%	3.41%	0.80	
Pasig	6425	3.44%	2.75%	0.80	
<b>Valenzuela</b>	<b>5607</b>	<b>3.40%</b>	<b>3.40%</b>	<b>1.00</b>	0.81
QC	40403	3.36%	1.92%	0.57	
<b>Las Pinas</b>	<b>4586</b>	<b>3.08%</b>	<b>3.08%</b>	<b>1.00</b>	
Pasay	3456	3.07%	2.46%	0.80	
Butuan	2295	2.84%	2.84%	1.00	
PPC	1574	2.69%	2.16%	0.80	
Mandaue	2276	2.39%	1.59%	0.67	
Marikina	2640	2.26%	1.39%	0.62	
Mutinlupa	2518	2.08%	1.66%	0.80	0.72
<b>CDO</b>	<b>2995</b>	<b>1.81%</b>	<b>1.45%</b>	<b>0.80</b>	
Davao	7070	1.80%	1.20%	0.67	0.84
Caloocan	5416	1.32%	1.05%	0.80	
Paranaque	1855	1.14%	1.14%	1.00	
<b>Malabon</b>	<b>1056</b>	<b>1.07%</b>	<b>0.86%</b>	<b>0.80</b>	
<b>Bacolod</b>	<b>1407</b>	<b>1.03%</b>	<b>0.82%</b>	<b>0.80</b>	
Mutinlupa	1335	0.91%	0.61%	0.67	
Iloilo	996	0.88%	0.70%	0.80	
Taguig	954	0.52%	0.52%	1.00	
Cebu	513	0.21%	0.17%	0.80	0.74
<b>Mandaluyong</b>	<b>46</b>	<b>0.05%</b>	<b>0.03%</b>	<b>0.67</b>	

## Method 2b. PM - 6 month HIV testing

City	Unadjusted		Adjusted	Adjustment factor	Ave adjustment factor
	Point estimate	Pop %	Pop %		
<b>Butuan</b>	<b>3921</b>	<b>4.85%</b>	<b>4.85%</b>	<b>1.00</b>	0.76
Manila	20242	4.39%	2.20%	0.50	
Pasig	8032	4.29%	3.44%	0.80	
Gen San	5480	3.66%	2.92%	0.80	
QC	27812	3.63%	2.07%	0.57	
<b>Valenzuela</b>	<b>5823</b>	<b>3.53%</b>	<b>3.53%</b>	<b>1.00</b>	0.84
Mandaue	3024	3.17%	2.11%	0.67	
Davao	9460	2.40%	1.60%	0.67	
Marikina	2774	2.38%	1.46%	0.62	
PPC	1344	2.30%	1.84%	0.80	
Pasay	2552	2.27%	1.81%	0.80	
Butuan	1828	2.26%	2.26%	1.00	
Mutinlupa	3042	2.07%	1.38%	0.67	
Caloocan	8452	2.06%	1.65%	0.80	0.87
<b>CDO</b>	<b>3349</b>	<b>2.02%</b>	<b>1.62%</b>	<b>0.80</b>	
Mutinlupa	2253	1.86%	1.49%	0.80	
Iloilo	1072	0.94%	0.75%	0.80	
Paranaque	1424	0.88%	0.88%	1.00	
Taguig	1451	0.80%	0.80%	1.00	
Bacolod	1044	0.76%	0.61%	0.80	
Malabon	667	0.68%	0.54%	0.80	
Cebu	1526	0.64%	0.51%	0.80	0.78
Las Pinas	735	0.49%	0.49%	1.00	
<b>Zamboanga</b>	<b>487</b>	<b>0.23%</b>	<b>0.15%</b>	<b>0.67</b>	
<b>Mandaluyong</b>	<b>169</b>	<b>0.18%</b>	<b>0.12%</b>	<b>0.67</b>	

## Method 2c. PM – 12 month HIV testing

City	Unadjusted		Adjusted	Adjustment factor	Ave adjustment factor
	Point estimate	Pop %	Pop %		
Valenzuela	20772	12.61%	6.30%	0.50	0.41
Mandaue	8348	8.76%	4.38%	0.50	
Butuan	3388	4.19%	2.10%	0.50	
Pasig	14760	7.89%	3.51%	0.44	
Manila	29663	6.44%	2.57%	0.40	
PPC	3264	5.59%	2.03%	0.36	
QC	40403	5.27%	1.62%	0.31	
Mandaluyong	4367	4.72%	1.57%	0.33	
Gen San	6212	4.14%	1.51%	0.36	
Marikina	4448	3.81%	1.45%	0.38	
Davao	11891	3.02%	1.01%	0.33	0.41
Pasay	3187	2.83%	1.26%	0.44	
Cebu	6717	2.81%	1.25%	0.44	
Caloocan	11240	2.74%	1.22%	0.44	
Mutinlupa	3482	2.37%	0.79%	0.33	0.55
CDO	3830	2.32%	1.32%	0.57	
Paranaque	3294	2.03%	1.01%	0.50	
Mutinlupa	2082	1.72%	1.38%	0.80	0.52
Taguig	2814	1.55%	0.52%	0.33	
San Juan	359	1.13%	0.90%	0.80	
Iloilo	1284	1.13%	0.41%	0.36	
Malabon	1094	1.11%	0.63%	0.57	
Zamboanga	1535	0.73%	0.36%	0.50	0.62
Bacolod	917	0.67%	0.24%	0.36	
Las Pinas	575	0.39%	0.39%	1.00	

## Method 2d. PM – GF 6 month reach

City	Unadjusted		Adjusted	Adjustment factor
	Point estimate	Pop %	Pop %	
Manila	44688	9.7%	14.5%	1.50
Pasay	9697	8.6%	8.6%	1.00
Caloocan	33090	8.1%	8.1%	1.00
Pasig	12128	6.5%	4.9%	0.75
Marikina	7081	6.1%	5.1%	0.83
Cebu	12105	5.1%	4.2%	0.83
CDO	7609	4.6%	4.6%	1.00
Davao	15613	4.0%	5.6%	1.40

**Annex 4. City-specific MSW results**

City	Male Transactional Sex Workers				Male Transactional Workers who finds Partners in Establishments		Male establishment Workers (with paying male & female partners)	
	Best estimate	Pop %	Low estimate	High estimate	Best estimate	Pop %	Best estimate	Pop %
Angeles	858	0.97%	520	1400			508	0.58%
Antipolo	1216	0.67%	990	2100	259	0.14%		
Bacolod	588	0.43%	500	690	118	0.09%		
Bacoor	524	0.37%	420	920	0	0.00%		
Baguio	200	0.22%	160	250	73	0.08%		
Batangas	450	0.55%	270	1100	114	0.14%		
Butuan	266	0.33%	140	490	81	0.10%		
Cagayan de Oro	540	0.33%	360	780	167	0.04%		
Caloocan	2700	0.66%	1900	3900	175	0.11%		
Cebu	2016	0.84%	690	3300	269	0.11%		
Davao	1860	0.47%	1300	2700	400	0.10%		
General Santos	350	0.23%	230	600	146	0.10%		
Iloilo	506	0.44%	280	710	141	0.12%		
Imus	243	0.30%	200	430	0	0.00%		
Las Piñas	555	0.37%	380	670	64	0.04%		
Lipa	343	0.45%	250	420	59	0.08%		
Makati	925	0.63%	620	1100	193	0.13%		
Malabon	450	0.46%	300	530	0	0.00%		
Mandaluyong	600	0.65%	450	750	79	0.09%		
Mandaue	192	0.20%	120	360	169	0.18%		
Manila	2790	0.61%	1900	3500			370	0.08%
Marikina	510	0.44%	420	620	21	0.02%		
Muntinlupa	168	0.14%	120	220	15	0.01%		
Navotas	85	0.12%	60	100	18	0.03%		
Parañaque	800	0.49%	700	980	85	0.05%		
Pasay	700	0.62%	480	980			203	0.18%
Pasig	1500	0.80%	1000	2400	70	0.04%		
Puerto Princesa	336	0.58%	280	610	52	0.09%		
QC	6195	0.81%	2900	9600			566	0.07%
San Jose del	985	0.81%	720	1200	299	0.25%		
San Juan	120	0.38%	90	200	0	0.00%		
Taguig	600	0.33%	460	820	11	0.01%		
Talisay	208	0.38%	180	240	63	0.12%		
Valenzuela	160	0.10%	110	200	0	0.00%		
Zamboanga	931	0.44%	720	1300	0	0.00%		



**Annex 5. City-specific FSW results**

City	Province	Region	RFSW	RFSW % of females 15-49	FFSW Best estimate	Total FSW*	%Total FSW	% of FSW who are RFSW
<b>Angeles</b>	Pampanga	3	13000	14.1%	390	13400	14.5%	97.69%
<b>Baguio</b>	Benguet	car	870	0.9%	270	1100	1.2%	75.42%
<b>CDO</b>	Misamis Oriental	10	980	0.6%	470	1400	0.9%	67.68%
<b>Cebu</b>	Cebu	7	2000	0.8%	590	2600	1.0%	77.41%
<b>Davao</b>	Davao del Sur	11	950	0.2%	400	1400	0.3%	70.14%
<b>General Santos</b>	South Cotabato	12	280	0.2%	740	1000	0.7%	27.65%
<b>Iloilo</b>	Iloilo	6	410	0.3%	580	990	0.8%	41.63%
<b>QC</b>	Metro Manila	ncr	3500	0.4%	1200	4700	0.6%	74.45%

\*Figures are rounded to the nearest 100.

**Annex 6. City-specific male IDU results**

	Unadjusted Estimates				Adjusted Values			
	Point estimate	Lower bound	Upper bound	Pop %	Point estimate	Lower bound	Upper bound	Pop %
<b>Cebu</b>								
<b>Unique object</b>	8778	6630	13422	3.68%	3511	2652	5369	1.47%
<b>PM year</b>	2117	1776	2705	0.89%	1210	1015	1546	0.05%
<b>PM GF reach year</b>	6185			2.59%	2706			1.62%
<b>PM GF reach 6 mo</b>	3092			1.30%	1804			0.76%
<b>Consensus Estimate</b>					<b>4300</b>	<b>2200</b>	<b>6200</b>	<b>1.80%</b>
<b>Mandaue</b>								
<b>Unique Object</b>	4915	3601	9766	5.16%	1966	1440	3906	2.06%
<b>PM year</b>	2731	2369	4377	2.86%	1561	1354	2501	0.17%
<b>PM GF reach year</b>	14417			15.12%	6307			9.45%
<b>PM GF reach 6 mo</b>	7209			7.56%	4205			4.41%
<b>Consensus Estimate</b>					<b>1800</b>	<b>1500</b>	<b>3700</b>	<b>1.89%</b>

**Annex 7. Cities with reported HIV cases among IDU**

List of cities with &gt;5 reported HIV cases with IDU risk factor between 2010-2015

City	Region	Province	HIV cases with IDU risk reported 2010-2015
Bacolod	6	Negros Occidental	6
Cebu	7	Cebu	1009
Mandaue	7	Cebu	64
Talisay	7	Cebu	7
Danao	7	Cebu	19
Lapu-Lapu	7	Cebu	11
Cagayan de Oro	10	Misamis Oriental	8
Davao	11	Davao del Sur	18
Bacoor	4A	Cavite	7
Dasmaringas	4A	Cavite	6
Mandaluyong	NCR	Metro Manila	20
Makati	NCR	Metro Manila	18
Pasay	NCR	Metro Manila	13
Pasig	NCR	Metro Manila	14
Manila	NCR	Metro Manila	28
Marikina	NCR	Metro Manila	10
Quezon City	NCR	Metro Manila	45
Malabon	NCR	Metro Manila	6
Caloocan	NCR	Metro Manila	9

**Annex 8. National and regional level estimates of MSM, TGW, MSW, male IDU, and FSW**

The latest data available for city level census of males and females aged 15-49 years from the Philippine Statistics Authority is from the year 2010. Population percentages of KAP may be applied to a more recent census once available.

Region	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Male Injecting Drug Users				Female Population (15-49)	Female Sex Workers			
		Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%	Low Est.	%	High Est.	%		Best Est.	%	Low Est.	High Est.
<b>NATIONAL</b>	24,435,734	531,500	2.18	429,200	792,900	122,800	23	0.50	86,600	16	0.35	10,000	0.04	21,700	0.09	23,849,921	66,100	0.28	45,600	95,300
REGION I	1,250,681	21,800	1.74	21,300	37,500	5,000	23	0.40	3,500	16	0.28	250	0.02	500	0.04	1,193,788	2,000	0.17	1,300	4,800
REGION II	877,460	15,300	1.74	14,900	26,300	3,500	23	0.40	2,400	16	0.28	180	0.02	350	0.04	827,553	1,700	0.20	1,300	5,500
REGION III	2,734,890	57,500	2.10	46,500	82,000	13,600	24	0.50	9,900	17	0.36	550	0.02	1,100	0.04	2,669,250	18,500	0.69	15,900	21,800
REGION IV-A	3,384,238	84,300	2.49	57,500	101,500	20,100	24	0.59	13,000	15	0.38	680	0.02	1,400	0.04	3,419,115	7,000	0.21	3,900	11,200
REGION IV-B	696,202	12,900	1.86	11,800	20,900	2,800	22	0.40	2,100	16	0.30	140	0.02	280	0.04	650,546	930	0.14	580	2,200
REGION V	1,334,609	22,900	1.72	22,700	40,000	5,300	23	0.39	3,700	16	0.27	270	0.02	530	0.04	1,241,965	1,400	0.11	760	2,600
REGION VI	1,108,125	19,400	1.75	18,800	33,200	4,200	22	0.38	3,300	17	0.29	440	0.04	890	0.08	1,036,309	1,500	0.14	1,100	1,700
REGION VII	1,446,473	31,700	2.19	24,600	43,400	7,200	23	0.50	5,400	17	0.37	4,600	0.32	11,000	0.76	1,411,104	4,100	0.29	2,600	4,900
REGION VIII	1,020,505	17,600	1.73	17,300	30,600	4,100	23	0.40	2,800	16	0.28	200	0.02	410	0.04	932,332	650	0.07	330	1,200
REGION IX	884,789	16,100	1.82	15,000	26,500	3,600	22	0.40	2,800	17	0.31	180	0.02	350	0.04	845,123	1,000	0.12	560	2,000
REGION X	1,130,181	20,900	1.85	19,200	33,900	4,600	22	0.41	3,200	15	0.28	450	0.04	900	0.08	1,074,722	2,600	0.24	1,600	3,800
REGION XI	1,209,049	24,000	1.98	20,600	36,300	5,900	25	0.49	4,200	18	0.35	240	0.02	480	0.04	1,145,552	2,400	0.21	1,500	3,000
REGION XII	1,112,280	22,500	2.03	18,900	33,400	4,800	21	0.43	3,200	14	0.28	440	0.04	890	0.08	1,059,182	2,500	0.24	1,600	3,700
ARMM	782,213	13,300	1.70	13,300	23,500	3,100	23	0.39	2,100	16	0.27	160	0.02	310	0.04	829,529	130	0.02	70	200
CAR	445,796	8,100	1.81	7,600	13,400	1,900	24	0.43	1,200	15	0.26	90	0.02	180	0.04	423,531	1,400	0.33	790	1,500
CARAGA	630,012	11,600	1.84	10,700	18,900	2,700	23	0.42	1,800	16	0.29	250	0.04	500	0.08	583,857	640	0.11	290	1,200
NEGROS ISLAND	1,098,978	19,200	1.74	18,700	33,000	4,300	23	0.39	3,200	17	0.29	220	0.02	440	0.04	1,023,488	2,000	0.20	1,100	3,200
NCR	3,289,253	112,400	3.42	69,700	158,600	26,300	23	0.80	18,900	17	0.58	660	0.02	1,300	0.04	3,482,975	15,600	0.45	10,300	20,900

### Annex 9. PAHI city estimates of MSM, TGW, MSW, male IDU, and FSW

The latest data available for city level census of males and females aged 15-49 years from the Philippine Statistics Authority is from the year 2010. Population percentages of KAP may be applied to a more recent census once available.

Region	City/ Municipality	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Male Injecting Drug Users				Female Population (15-49)	Female Sex Workers			
			Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%	Best Est.	%	Low Est.	High Est.		Best Est.	%	Low Est.	High Est.
<b>PAHI Category A</b>																					
3	SJDM	121,589	3,600	3.00	2,700	4,500	1,200	33	0.99	980	27	0.81					122,677	250	0.20	120	370
	Angeles	88,280	3,300	3.74	2,000	5,500	790	24	0.90	860	26	0.97					92,579	13,400	14.52	13,000	13,400
4A	Bacoor	141,558	5,200	3.70	4,200	9,200	790	15	0.56	520	10	0.37					150,545	300	0.20	70	450
	Dasmariñas	155,061	4,700	3.00	3,400	5,700	1,100	23	0.69	740	16	0.48					163,082	330	0.20	160	490
	Imus	82,040	3,000	3.70	2,500	5,300	910	30	1.11	240	8	0.30					90,847	180	0.20	90	270
	Sta. Rosa	79,303	2,900	3.70	2,400	5,200	670	23	0.85	470	16	0.59					88,041	180	0.20	90	260
	Antipolo	182,534	6,800	3.70	5,500	11,900	2,000	30	1.11	1,200	18	0.67					187,453	370	0.20	190	560
	Cainta	85,200	3,200	3.70	2,600	5,500	730	23	0.85	500	16	0.59					91,412	450	0.49	310	760
6	Iloilo	113,794	2,200	1.93	1,200	3,100	220	10	0.19	510	23	0.44					118,361	990	0.84	900	990
7	Cebu	238,748	9,600	4.02	3,300	15,800	1,800	19	0.76	2,000	21	0.84	4300	1.80	2,200	6,200	249,586	2,600	1.04	1,700	2,600
	Danao	31,589	690	2.20	540	950	160	23	0.51	110	16	0.35	100	0.33	100	100	30,928	60	0.20	30	90
	Lapu-Lapu	96,323	1,600	1.70	1,600	2,100	380	23	0.39	260	16	0.27	320	0.33	320	320	102,450	200	0.20	100	310
	Mandaue	95,341	2,400	2.52	1,500	4,500	720	30	0.76	190	8	0.20	1800	1.89	1,500	3,700	98,219	390	0.40	270	660
	Naga	26,971	460	1.70	460	590	110	23	0.39	70	16	0.27	90	0.33	90	90	25,898	50	0.20	30	80
	Talisay	54,133	1,300	2.40	1,100	1,500	390	30	0.72	210	16	0.38	180	0.33	180	180	55,477	110	0.20	60	170
9	Zamboanga	211,571	4,700	2.20	3,600	6,300	930	20	0.44	930	20	0.44					213,679	650	0.30	410	1,000
10	Cagayan de Oro	165,450	4,500	2.72	3,000	6,500	810	18	0.49	540	12	0.33					168,845	1,400	0.86	1,100	1,400
11	Davao	393,667	9,300	2.36	6,500	13,400	2,500	27	0.64	1,900	20	0.47					400,216	1,400	0.34	920	1,400
Negros	Bacolod	136,615	2,800	2.05	2,400	3,300	560	20	0.41	590	21	0.43					139,882	720	0.52	490	1,200
NCR	Caloocan	410,722	10,800	2.63	7,700	15,700	2,100	19	0.50	2,700	25	0.66					417,665	1,100	0.27	850	1,700
	Las Piñas	149,011	3,700	2.50	2,500	4,500	1,100	30	0.74	560	15	0.37					163,504	330	0.20	160	490
	Makati	146,865	3,700	2.50	2,500	4,400	960	26	0.66	930	25	0.63					169,391	4,000	2.39	3,000	6,000
	Malabon	98,482	2,500	2.50	1,700	3,000	1,200	47	1.19	450	18	0.46					98,433	200	0.20	40	300
	Mandaluyong	92,462	2,400	2.60	1,800	3,000	770	32	0.83	600	25	0.65					97,018	420	0.43	310	620
	Manila	460,912	15,500	3.36	10,500	19,500	3,100	20	0.67	2,800	18	0.61					480,522	2,100	0.44	1,600	3,100
	Marikina	116,795	3,400	2.91	2,800	4,100	680	20	0.58	510	15	0.44					124,017	250	0.20	120	370
	Muntinlupa	121,075	2,800	2.31	2,100	3,600	280	10	0.23	170	6	0.14					132,096	260	0.20	130	400
	Navotas	68,689	1,700	2.50	1,200	2,100	610	36	0.89	90	5	0.12					67,134	200	0.30	150	300
	Parañaque	162,377	4,000	2.46	3,500	4,900	1,200	30	0.74	800	20	0.49					178,642	360	0.20	180	540
	Pasay	112,506	3,500	3.11	2,400	4,900	700	20	0.62	700	20	0.62					119,008	350	0.30	260	520
	Pasig	187,038	7,500	4.01	5,000	12,000	1,500	20	0.80	1,500	20	0.80					200,859	400	0.20	140	600
	Pateros	17,477	440	2.50	300	520	100	23	0.58	70	17	0.43					18,245	40	0.20	20	50
	QC	766,245	41,300	5.39	19,000	64,000	10,300	25	1.35	6,200	15	0.81					822,261	4,700	0.57	3,100	4,700
	San Juan	31,775	1,200	3.78	900	2,000	120	10	0.38	120	10	0.38					40,323	110	0.28	80	170
Taguig	182,043	4,000	2.20	3,100	5,500	1,200	31	0.68	600	15	0.33					189,246	380	0.20	190	570	
	Valenzuela	164,779	4,000	2.43	2,800	4,900	400	10	0.24	160	4	0.10					164,611	330	0.20	40	490
<b>PAHI Category B</b>																					
3	Olongapo	58,460	1,800	3.00	1,300	2,200	400	23	0.69	280	16	0.48					61,306	1,000	1.69	700	1,800
4A	Batangas	82,175	3,000	3.65	1,800	7,400	810	27	0.99	450	15	0.55					82,740	170	0.20	70	180
	Lipa	76,316	2,300	3.00	1,700	2,800	850	37	1.11	340	15	0.45					76,093	150	0.20	80	230
4B	Puerto Princesa	58,431	2,100	3.59	1,800	3,800	320	15	0.54	340	16	0.58					59,190	160	0.28	110	280
12	General Santos	149,891	5,000	3.34	3,300	8,500	750	15	0.50	350	7	0.23					148,907	1,000	0.69	910	1,000
CAR	Baguio	89,293	2,000	2.24	1,600	2,500	540	27	0.60	200	10	0.22					96,428	1,100	1.19	670	1,100
CARAGA	Butuan	80,801	1,900	2.35	1,000	3,500	440	23	0.54	270	14	0.33					78,981	160	0.20	30	240

2015 Size Estimation of Key Affected Populations in the Philippines

Region	City/ Municipality	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Male Injecting Drug Users				Female Population (15-49)	Female Sex Workers			
			Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%	Best Est.	%	Low Est.	High Est.		Best Est.	%	Low Est.	High Est.
<b>PAHI Category C</b>																					
1	San Fernando	30,898	680	2.20	530	930	160	23	0.51	110	16	0.35					31,455	400	1.29	270	690
	Dagupan	43,348	740	1.70	740	950	170	23	0.39	120	16	0.27					42,637	130	0.30	90	220
2	Tuguegarao	37,929	830	2.20	640	1,100	190	23	0.51	130	16	0.35					38,918	180	0.47	120	310
3	Malolos	63,208	1,900	3.00	1,400	2,300	440	23	0.69	300	16	0.48					64,783	130	0.20	60	190
	Marilao	50,580	1,500	3.00	1,100	1,900	350	23	0.69	240	16	0.48					51,958	100	0.20	50	160
	Meycauayan	55,570	1,700	3.00	1,200	2,100	380	23	0.69	270	16	0.48					55,320	110	0.20	60	170
	Santa Maria	59,358	1,300	2.20	1,000	1,800	300	23	0.51	210	16	0.35					58,846	120	0.20	60	180
	Mabalacat	58,477	1,300	2.20	990	1,800	300	23	0.51	210	16	0.35					59,149	120	0.20	60	180
	San Fernando	78,208	2,300	3.00	1,700	2,900	540	23	0.69	380	16	0.48					77,369	570	0.74	390	960
	Tarlac	86,595	1,500	1.70	1,500	1,900	340	23	0.39	240	16	0.27					84,007	170	0.20	80	250
4A	Cavite	26,303	970	3.70	790	1,700	220	23	0.85	160	16	0.59					27,263	490	1.79	330	830
	Calamba	107,019	2,400	2.20	1,800	3,200	540	23	0.51	380	16	0.35					112,652	230	0.20	30	340
	San Pablo	65,741	1,400	2.20	1,100	2,000	330	23	0.51	230	16	0.35					66,910	130	0.20	90	220
	San Pedro	79,630	2,400	3.00	1,800	2,900	550	23	0.69	380	16	0.48					83,590	170	0.20	80	250
	Lucena	64,877	1,100	1.70	1,100	1,400	250	23	0.39	180	16	0.27					65,714	130	0.20	70	200
	San Mateo	55,541	2,100	3.70	1,700	3,600	470	23	0.85	330	16	0.59					56,876	110	0.20	60	170
	Taytay	78,790	2,400	3.00	1,700	2,900	540	23	0.69	380	16	0.48					80,376	160	0.20	30	240
4B	Puerto Galera	8,843	150	1.70	150	190	30	23	0.39	20	16	0.27					8,537	20	0.20	10	30
5	Legazpi	47,751	810	1.70	810	1,100	190	23	0.39	130	16	0.27					47,695	100	0.20	50	140
	Naga	44,473	980	2.20	760	1,300	230	23	0.51	160	16	0.35					46,542	110	0.24	80	190
6	Malay	12,483	270	2.20	210	370	60	23	0.51	40	16	0.35					11,866	20	0.20	10	40
7	Tagbilaran	25,479	560	2.20	430	760	130	23	0.51	90	16	0.35					27,098	50	0.20	30	80
	Toledo	40,821	690	1.70	690	900	160	23	0.39	110	16	0.27					38,128	80	0.20	40	110
8	Tacloban	57,532	1,300	2.20	980	1,700	290	23	0.51	200	16	0.35					58,353	120	0.20	40	180
10	Iligan	85,419	1,500	1.70	1,500	1,900	330	23	0.39	230	16	0.27					86,469	170	0.20	30	260
11	Panabo	47,476	810	1.70	810	1,000	190	23	0.39	130	16	0.27					46,114	90	0.20	50	140
	Tagum	66,001	1,500	2.20	1,100	2,000	330	23	0.51	230	16	0.35					67,044	130	0.20	70	200
12	Cotabato	72,599	1,200	1.70	1,200	1,600	280	23	0.39	200	16	0.27					77,799	160	0.20	30	230

**Annex 10. National, regional, provincial and city level estimates of MSM, TGW, MSW, and FSW**

The latest data available for city level census of males and females aged 15-49 years from the Philippine Statistics Authority is from the year 2010. Population percentages of KAP may be applied to a more recent census once available.

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
<b>NATIONAL</b>			24,435,734	531,500	2.18	429,200	792,900	122,800	23	0.50	86,600	16	0.35	23,849,921	66,100	0.28	45,600	95,300
<b>REGION I</b>			1,250,681	21,800	1.74	21,300	37,500	5,000	23	0.40	3,500	16	0.28	1,193,788	2,000	0.17	1,300	4,800
<b>ILOCOS NORTE</b>		CC	151,188	2,700	1.79	2,600	4,500	620	23	0.41	430	16	0.29	145,581	110	0.08	70	490
Batac		CC	14,322	240	1.70	240	320	60	23	0.39	40	16	0.27	13,838	30	0.20	10	40
Laoag		CC	27,758	610	2.20	470	830	140	23	0.51	100	16	0.35	28,086	70	0.24	50	420
Vintar		FC	8,501	140	1.70	140	190	30	23	0.39	20	16	0.27	7,937	20	0.20	10	20
Other Municipalities*			100,607	1,700	1.70	1,700	2,200	390	23	0.39	270	16	0.27	95,720	-	0.00	-	-
<b>ILOCOS SUR</b>			176,827	3,200	1.78	3,000	5,300	720	23	0.41	500	16	0.29	167,328	100	0.06	60	270
Cabugao		FC	9,612	160	1.70	160	210	40	23	0.39	30	16	0.27	9,062	20	0.20	10	30
Candon		CC	15,670	340	2.20	270	470	80	23	0.51	60	16	0.35	14,984	40	0.27	30	170
Sta. Cruz		FC	9,839	170	1.70	170	220	40	23	0.39	30	16	0.27	9,450	20	0.20	10	30
Vigan		CC	13,249	290	2.20	230	400	70	23	0.51	50	16	0.35	13,121	30	0.20	10	40
Other Municipalities*			128,457	2,200	1.70	2,200	2,800	500	23	0.39	350	16	0.27	120,711	-	0.00	-	-
<b>LA UNION</b>			198,953	3,500	1.78	3,400	6,000	810	23	0.41	570	16	0.28	190,301	700	0.37	490	1,200
Agoo		FC	16,171	270	1.70	270	360	60	23	0.39	40	16	0.27	15,489	30	0.20	20	50
Bacnotan		FC	11,046	190	1.70	190	240	40	23	0.39	30	16	0.27	10,614	20	0.20	10	30
Balaoan		FC	10,294	170	1.70	170	230	40	23	0.39	30	16	0.27	9,739	20	0.20	10	30
Bauang		FC	18,960	320	1.70	320	420	70	23	0.39	50	16	0.27	18,616	170	0.91	160	310
Naguilian		FC	13,051	220	1.70	220	290	50	23	0.39	40	16	0.27	12,322	20	0.20	10	40
Rosario		FC	13,873	240	1.70	240	310	50	23	0.39	40	16	0.27	13,279	30	0.20	10	40
San Fernando	C	CC	30,898	680	2.20	530	930	160	23	0.51	110	16	0.35	31,455	400	1.29	270	690
Other Municipalities*			84,660	1,400	1.70	1,400	1,900	330	23	0.39	230	16	0.27	78,787	-	0.00	-	-
<b>PANGASINAN</b>			723,713	12,400	1.71	12,300	21,700	2,800	23	0.39	2,000	16	0.27	690,578	1,100	0.16	660	2,800
Alaminos		CC	21,766	370	1.70	370	480	90	23	0.39	60	16	0.27	21,034	40	0.20	30	270
Bayambang		FC	28,419	480	1.70	480	630	110	23	0.39	80	16	0.27	27,011	50	0.20	30	80
Binalonan		FC	13,778	230	1.70	230	300	50	23	0.39	40	16	0.27	13,330	30	0.20	10	40
Binmaley		FC	20,934	360	1.70	360	460	80	23	0.39	60	16	0.27	19,902	40	0.20	20	60
Bolinao		FC	18,351	310	1.70	310	400	70	23	0.39	50	16	0.27	17,161	30	0.20	20	50
Calasiao		FC	24,627	420	1.70	420	540	100	23	0.39	70	16	0.27	23,239	50	0.20	20	70
Dagupan	C	CC	43,348	740	1.70	740	950	170	23	0.39	120	16	0.27	42,637	130	0.30	90	220
Lingayen		FC	25,154	430	1.70	430	550	100	23	0.39	70	16	0.27	24,518	80	0.34	70	340
Malasiqui		FC	31,821	540	1.70	540	700	120	23	0.39	90	16	0.27	30,204	60	0.20	30	90
Manaoag		FC	17,143	290	1.70	290	380	70	23	0.39	50	16	0.27	16,147	30	0.20	20	50
Mangaldan		FC	26,456	450	1.70	450	580	100	23	0.39	70	16	0.27	25,102	70	0.29	60	270
Mangatarem		FC	18,042	310	1.70	310	400	70	23	0.39	50	16	0.27	16,797	30	0.20	20	50
Pozorrubio		FC	17,515	300	1.70	300	390	70	23	0.39	50	16	0.27	16,714	30	0.20	20	50
Rosales		FC	16,060	270	1.70	270	350	60	23	0.39	40	16	0.27	15,590	30	0.20	20	50
San Carlos		CC	44,746	760	1.70	760	980	170	23	0.39	120	16	0.27	43,138	90	0.20	50	470
San Fabian		FC	20,560	350	1.70	350	450	80	23	0.39	60	16	0.27	19,607	40	0.20	20	60
San Manuel		FC	12,468	210	1.70	210	270	50	23	0.39	30	16	0.27	11,890	20	0.20	10	40
San Nicolas		FC	9,121	160	1.70	160	200	40	23	0.39	20	16	0.27	8,526	20	0.20	10	30
Sta. Barbara		FC	20,557	350	1.70	350	450	80	23	0.39	60	16	0.27	19,330	40	0.20	20	60
Sual		FC	8,049	140	1.70	140	180	30	23	0.39	20	16	0.27	7,414	10	0.20	10	20
Umingan		FC	17,608	300	1.70	300	390	70	23	0.39	50	16	0.27	16,606	30	0.20	20	50
Urdaneta		CC	33,168	560	1.70	560	730	130	23	0.39	90	16	0.27	32,452	100	0.31	80	400
Villasis		FC	15,686	350	2.20	270	470	80	23	0.51	60	16	0.35	15,077	30	0.20	20	50
Other Municipalities*			218,336	3,700	1.70	3,700	4,800	850	23	0.39	590	16	0.27	207,152	-	0.00	-	-

\* 2<sup>nd</sup> to 5<sup>th</sup> class municipalities

\*\*2<sup>nd</sup> to 5<sup>th</sup> class municipalities with FSW SHC counts

CC-chartered cities

FC-first class municipalities

## 2015 Size Estimation of Key Affected Populations in the Philippines

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
<b>REGION II</b>			877,460	15,300	1.74	14,900	26,300	3,500	23	0.40	2,400	16	0.28	827,553	1,700	0.20	1,300	5,500
<b>BATANES</b>			4,233	70	1.70	70	130	20	23	0.39	10	16	0.27	3,846	-	0.00	-	-
Other Municipalities*			4,233	70	1.70	70	90	20	23	0.39	10	16	0.27	3,846	-	0.00	-	-
<b>CAGAYAN</b>			301,010	5,300	1.76	5,100	9,000	1,200	23	0.41	850	16	0.28	285,069	750	0.26	590	2,400
Aparri		FC	15,843	270	1.70	270	350	60	23	0.39	40	16	0.27	14,971	370	2.50	360	1,800
Baggao		FC	21,455	360	1.70	360	470	80	23	0.39	60	16	0.27	19,456	40	0.20	20	60
Gattaran		FC	14,651	250	1.70	250	320	60	23	0.39	40	16	0.27	13,794	30	0.20	10	40
Gonzaga		FC	9,575	160	1.70	160	210	40	23	0.39	30	16	0.27	9,124	20	0.20	10	30
Lal-lo		FC	11,017	190	1.70	190	240	40	23	0.39	30	16	0.27	10,508	20	0.20	10	30
Penablanca		FC	11,803	200	1.70	200	260	50	23	0.39	30	16	0.27	11,157	20	0.20	10	30
Solana		FC	20,640	350	1.70	350	450	80	23	0.39	60	16	0.27	19,207	40	0.20	20	60
Tuao		FC	15,748	270	1.70	270	350	60	23	0.39	40	16	0.27	14,744	30	0.20	20	40
Tuguegarao	C	CC	37,929	830	2.20	640	1,100	190	23	0.51	130	16	0.35	38,918	180	0.47	120	310
Other Municipalities*			142,349	2,400	1.70	2,400	3,100	560	23	0.39	390	16	0.27	133,190	-	0.00	-	-
<b>ISABELA</b>			409,362	7,100	1.74	7,000	12,300	1,600	23	0.40	1,100	16	0.28	386,287	750	0.19	550	2,300
Alicia		FC	17,820	300	1.70	300	390	70	23	0.39	50	16	0.27	17,070	50	0.32	40	160
Cabagan		FC	11,995	200	1.70	200	260	50	23	0.39	30	16	0.27	11,503	20	0.20	10	30
Cauayan		CC	34,029	580	1.70	580	750	130	23	0.39	90	16	0.27	32,534	70	0.20	30	100
Dinapigue		FC	1,597	30	1.70	30	40	10	23	0.39	-	16	0.27	1,298	-	0.20	-	-
Echague		FC	20,325	350	1.70	350	450	80	23	0.39	60	16	0.27	19,281	70	0.38	60	280
Ilagan		CC	37,802	640	1.70	640	830	150	23	0.39	100	16	0.27	35,405	70	0.20	40	110
Jones		FC	12,158	210	1.70	210	270	50	23	0.39	30	16	0.27	11,399	20	0.20	10	30
Palanan		FC	4,211	70	1.70	70	90	20	23	0.39	10	16	0.27	3,677	10	0.20	-	10
Roxas		FC	15,852	270	1.70	270	350	60	23	0.39	40	16	0.27	15,385	60	0.39	50	310
San Isidro		FC	6,389	110	1.70	110	140	20	23	0.39	20	16	0.27	6,073	10	0.20	10	20
San Mariano		FC	14,205	240	1.70	240	310	60	23	0.39	40	16	0.27	12,667	30	0.20	10	40
San Mateo		FC	16,760	280	1.70	280	370	70	23	0.39	50	16	0.27	16,079	90	0.57	80	410
Santiago		CC	36,375	800	2.20	620	1,100	180	23	0.51	130	16	0.35	35,304	170	0.49	150	670
Tumauni		FC	15,613	270	1.70	270	340	60	23	0.39	40	16	0.27	14,881	30	0.20	10	40
Quezon**			6,795	120	1.70	120	150	30	23	0.39	20	16	0.27	6,158	40	0.59	30	120
Other Municipalities*			157,436	2,700	1.70	2,700	3,500	620	23	0.39	430	16	0.27	147,573	-	0.00	-	-
<b>NUEVA VIZCAYA</b>			114,433	1,900	1.70	1,900	3,400	450	23	0.39	310	16	0.27	107,425	130	0.12	90	240
Bambang		FC	13,036	220	1.70	220	290	50	23	0.39	40	16	0.27	12,379	70	0.60	70	150
Bayombong		FC	15,080	260	1.70	260	330	60	23	0.39	40	16	0.27	15,072	30	0.20	20	50
Solano		FC	15,043	260	1.70	260	330	60	23	0.39	40	16	0.27	14,850	30	0.20	10	40
Other Municipalities*			71,274	1,200	1.70	1,200	1,600	280	23	0.39	190	16	0.27	65,124	-	0.00	-	-
<b>QUIRINO</b>			48,422	820	1.70	820	1,500	190	23	0.39	130	16	0.27	44,926	60	0.13	50	460
Diffun**			13,206	220	1.70	220	290	50	23	0.39	40	16	0.27	12,486	40	0.34	30	220
Maddela		FC	9,555	160	1.70	160	210	40	23	0.39	30	16	0.27	9,042	20	0.20	10	240
Other Municipalities*			25,661	440	1.70	440	560	100	23	0.39	70	16	0.27	23,398	-	0.00	-	-
<b>REGION III</b>			2,734,890	57,500	2.10	46,500	82,000	13,600	24	0.50	9,900	17	0.36	2,669,250	18,500	0.69	15,900	21,800
<b>AURORA</b>			52,496	890	1.70	890	1,600	210	23	0.39	140	16	0.27	47,917	-	0.00	-	-
Other Municipalities*			52,496	890	1.70	890	1,200	210	23	0.39	140	16	0.27	47,917	-	0.00	-	-
<b>BATAAN</b>			184,439	3,300	1.76	3,100	5,500	750	23	0.41	520	16	0.28	181,877	250	0.14	130	380
Balanga		CC	23,410	520	2.20	400	700	120	23	0.51	80	16	0.35	23,746	50	0.20	20	70
Dinalupihan		FC	26,139	440	1.70	440	580	100	23	0.39	70	16	0.27	25,478	50	0.20	30	80
Hermosa		FC	15,222	260	1.70	260	330	60	23	0.39	40	16	0.27	14,708	30	0.20	10	40
Limay		FC	15,373	260	1.70	260	340	60	23	0.39	40	16	0.27	15,078	30	0.20	20	50
Mariveles		FC	30,165	510	1.70	510	660	120	23	0.39	80	16	0.27	31,225	60	0.20	30	90
Orani		FC	16,400	280	1.70	280	360	60	23	0.39	40	16	0.27	16,059	30	0.20	20	50
Other Municipalities*			57,730	980	1.70	980	1,300	230	23	0.39	160	16	0.27	55,583	-	0.00	-	-

 \* 2<sup>nd</sup> to 5<sup>th</sup> class municipalities

 \*\*2<sup>nd</sup> to 5<sup>th</sup> class municipalities with FSW SHC counts

CC-chartered cities

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2015 Size Estimation of Key Affected Populations in the Philippines

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
<b>BULACAN</b>			794,006	19,300	2.44	13,500	23,800	4,800	25	0.61	3,500	18	0.44	789,661	1,400	0.18	700	2,100
Angat		FC	14,735	320	2.20	250	440	70	23	0.51	50	16	0.35	14,529	30	0.20	10	40
Balagtas		FC	17,879	390	2.20	300	540	90	23	0.51	60	16	0.35	17,821	40	0.20	20	50
Baliuag		FC	39,603	870	2.20	670	1,200	200	23	0.51	140	16	0.35	38,993	80	0.20	40	120
Bocau		FC	28,919	870	3.00	640	1,100	200	23	0.69	140	16	0.48	28,510	60	0.20	30	90
Bulacan		FC	19,649	730	3.70	590	1,300	170	23	0.85	120	16	0.59	19,451	40	0.20	20	60
Calumpit		FC	27,613	610	2.20	470	830	140	23	0.51	100	16	0.35	27,000	50	0.20	30	80
Dona Trinidad		FC	5,270	90	1.70	90	120	20	23	0.39	10	16	0.27	4,728	10	0.20	-	10
Guiguinto		FC	24,778	550	2.20	420	740	130	23	0.51	90	16	0.35	24,943	50	0.20	20	70
Hagonoy		FC	34,591	590	1.70	590	760	140	23	0.39	90	16	0.27	33,262	70	0.20	30	100
Malolos	C	CC	63,208	1,900	3.00	1,400	2,300	440	23	0.69	300	16	0.48	64,783	130	0.20	60	190
Marilao	C	FC	50,580	1,500	3.00	1,100	1,900	350	23	0.69	240	16	0.48	51,958	100	0.20	50	160
Meycauayan	C	CC	55,570	1,700	3.00	1,200	2,100	380	23	0.69	270	16	0.48	55,320	110	0.20	60	170
Plaridel		FC	27,502	610	2.20	470	830	140	23	0.51	100	16	0.35	27,794	60	0.20	30	80
Pulilan		FC	23,308	510	2.20	400	700	120	23	0.51	80	16	0.35	23,054	50	0.20	20	70
San Ildefonso		FC	25,775	440	1.70	440	570	100	23	0.39	70	16	0.27	24,895	50	0.20	20	70
San Jose del Monte	A	CC	121,589	3,600	3.00	2,700	4,500	1,200	33	0.99	980	27	0.81	122,677	250	0.20	120	370
San Miguel		FC	38,816	660	1.70	660	850	150	23	0.39	110	16	0.27	37,599	80	0.20	40	110
San Rafael		FC	23,441	520	2.20	400	700	120	23	0.51	80	16	0.35	23,268	50	0.20	20	70
Santa Maria	C	FC	59,358	1,300	2.20	1,000	1,800	300	23	0.51	210	16	0.35	58,846	120	0.20	60	180
Other Municipalities*			91,822	1,600	1.70	1,600	2,000	360	23	0.39	250	16	0.27	90,230	-	0.00	-	-
<b>NUEVA ECIIJA</b>			528,548	10,000	1.89	9,000	15,900	2,300	23	0.43	1,600	16	0.30	506,549	690	0.14	380	1,500
Cabanatuan		CC	73,473	1,600	2.20	1,200	2,200	370	23	0.51	260	16	0.35	73,593	180	0.24	130	700
Cabiao		FC	19,206	330	1.70	330	420	80	23	0.39	50	16	0.27	18,377	40	0.20	20	60
Carranglan		FC	10,305	180	1.70	180	230	40	23	0.39	30	16	0.27	9,279	20	0.20	10	30
Cuyapo		FC	15,360	260	1.70	260	340	60	23	0.39	40	16	0.27	14,495	30	0.20	10	40
Gapan		CC	27,343	460	1.70	460	600	110	23	0.39	70	16	0.27	26,429	50	0.20	30	80
Gen. Tinio		FC	11,260	190	1.70	190	250	40	23	0.39	30	16	0.27	10,847	20	0.20	10	30
Guimba		FC	28,565	490	1.70	490	630	110	23	0.39	80	16	0.27	26,996	50	0.20	30	80
Muñoz		CC	20,181	440	2.20	340	610	100	23	0.51	70	16	0.35	19,378	40	0.20	20	60
Palayan		CC	10,178	170	1.70	170	220	40	23	0.39	30	16	0.27	9,716	20	0.20	10	30
Pantabangan		FC	7,409	130	1.70	130	160	30	23	0.39	20	16	0.27	6,853	10	0.20	10	20
San Antonio		FC	19,751	340	1.70	340	430	80	23	0.39	50	16	0.27	18,854	40	0.20	20	60
San Jose		CC	34,771	1,000	3.00	760	1,300	240	23	0.69	170	16	0.48	33,331	70	0.20	30	100
San Leonardo		FC	15,754	350	2.20	270	470	80	23	0.51	60	16	0.35	14,897	30	0.20	10	40
Santa Rosa		FC	17,516	300	1.70	300	390	70	23	0.39	50	16	0.27	17,117	30	0.20	20	50
Talavera		FC	30,832	520	1.70	520	680	120	23	0.39	80	16	0.27	29,490	60	0.20	30	90
Other Municipalities*			186,644	3,200	1.70	3,200	4,100	730	23	0.39	510	16	0.27	176,897	-	0.00	-	-
<b>PAMPANGA</b>			635,385	14,100	2.21	10,800	19,100	3,300	23	0.51	2,600	18	0.41	623,663	14,500	2.33	13,700	15,200
Angeles	A	CC	88,280	3,300	3.74	2,000	5,500	790	24	0.90	860	26	0.97	92,579	13,400	14.52	13,000	13,400
Candaba		FC	27,675	470	1.70	470	610	110	23	0.39	80	16	0.27	26,547	50	0.20	30	80
Guagua		FC	30,451	670	2.20	520	910	150	23	0.51	110	16	0.35	29,317	60	0.20	30	90
Lubao		FC	40,699	690	1.70	690	900	160	23	0.39	110	16	0.27	39,475	80	0.20	40	120
Mabalacat*	C		58,477	1,300	2.20	990	1,800	300	23	0.51	210	16	0.35	59,149	120	0.20	60	180
Macabebe		FC	18,963	320	1.70	320	420	70	23	0.39	50	16	0.27	17,907	40	0.20	20	50
Magalang		FC	27,972	480	1.70	480	620	110	23	0.39	80	16	0.27	26,743	50	0.20	30	80
Mexico		FC	40,312	690	1.70	690	890	160	23	0.39	110	16	0.27	38,933	80	0.20	40	120
Porac		FC	30,272	510	1.70	510	670	120	23	0.39	80	16	0.27	29,339	60	0.20	30	90
San Fernando	C	CC	78,208	2,300	3.00	1,700	2,900	540	23	0.69	380	16	0.48	77,369	570	0.74	390	960
Other Municipalities*			194,076	3,300	1.70	3,300	4,300	760	23	0.39	530	16	0.27	186,305	-	0.00	-	-

\* 2<sup>nd</sup> to 5<sup>th</sup> class municipalities

\*\*2<sup>nd</sup> to 5<sup>th</sup> class municipalities with FSW SHC counts

CC-chartered cities

FC-first class municipalities

2015 Size Estimation of Key Affected Populations in the Philippines

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
<b>TARLAC</b>			340,728	5,800	1.70	5,800	10,200	1,300	23	0.39	930	16	0.27	324,666	460	0.14	230	690
Camiling		FC	20,656	350	1.70	350	450	80	23	0.39	60	16	0.27	19,896	40	0.20	20	60
Capas		FC	33,642	570	1.70	570	740	130	23	0.39	90	16	0.27	32,116	60	0.20	30	100
Concepcion		FC	38,078	650	1.70	650	840	150	23	0.39	100	16	0.27	35,597	70	0.20	40	110
Gerona		FC	22,249	380	1.70	380	490	90	23	0.39	60	16	0.27	21,058	40	0.20	20	60
Moncada		FC	15,079	260	1.70	260	330	60	23	0.39	40	16	0.27	14,041	30	0.20	10	40
Paniqui		FC	23,312	400	1.70	400	510	90	23	0.39	60	16	0.27	22,573	50	0.20	20	70
Tarlac	C	CC	86,595	1,500	1.70	1,500	1,900	340	23	0.39	240	16	0.27	84,007	170	0.20	80	250
Other Municipalities*			101,117	1,700	1.70	1,700	2,200	400	23	0.39	280	16	0.27	95,378	-	0.00	-	-
<b>ZAMBALES</b>			199,288	4,100	2.08	3,400	6,000	950	23	0.48	660	16	0.33	194,917	1,200	0.60	770	2,000
Botolan		FC	14,168	240	1.70	240	310	60	23	0.39	40	16	0.27	13,689	30	0.20	10	40
Masinloc		FC	11,521	200	1.70	200	250	50	23	0.39	30	16	0.27	10,715	20	0.20	10	30
Olongapo	B	CC	58,460	1,800	3.00	1,300	2,200	400	23	0.69	280	16	0.48	61,306	1,000	1.69	700	1,800
San Marcelino		FC	8,372	140	1.70	140	180	30	23	0.39	20	16	0.27	8,142	20	0.20	10	20
Santa Cruz		FC	13,980	240	1.70	240	310	50	23	0.39	40	16	0.27	12,779	30	0.20	10	40
Subic		FC	24,407	410	1.70	410	540	100	23	0.39	70	16	0.27	23,289	50	0.20	20	70
Other Municipalities*			68,380	1,200	1.70	1,200	1,500	270	23	0.39	190	16	0.27	64,997	-	0.00	-	-
<b>Region IV-A</b>			3,384,238	84,300	2.49	57,500	101,500	20,100	24	0.59	13,000	15	0.38	3,419,115	7,000	0.21	3,900	11,200
<b>BATANGAS</b>			634,499	13,900	2.20	10,800	19,000	3,600	26	0.57	2,200	16	0.34	622,474	890	0.14	430	1,300
Balayan		FC	21,743	480	2.20	370	650	110	23	0.51	80	16	0.35	21,186	40	0.20	20	60
Batangas	B	CC	82,175	3,000	3.65	1,800	7,400	810	27	0.99	450	15	0.55	82,740	170	0.20	70	180
Bauan		FC	22,528	380	1.70	380	500	90	23	0.39	60	16	0.27	21,935	40	0.20	20	70
Calaca		FC	18,708	320	1.70	320	410	70	23	0.39	50	16	0.27	17,893	40	0.20	20	50
Lemery		FC	21,861	370	1.70	370	480	90	23	0.39	60	16	0.27	21,264	40	0.20	20	60
Lipa	B	CC	76,316	2,300	3.00	1,700	2,800	850	37	1.11	340	15	0.45	76,093	150	0.20	80	230
Mabini		FC	12,275	210	1.70	210	270	50	23	0.39	30	16	0.27	12,034	20	0.20	10	40
Nasugbu		FC	32,260	550	1.70	550	710	130	23	0.39	90	16	0.27	30,849	60	0.20	30	90
Rosario		FC	28,008	480	1.70	480	620	110	23	0.39	80	16	0.27	26,733	50	0.20	30	80
San Jose		FC	18,715	560	3.00	410	690	130	23	0.69	90	16	0.48	17,646	40	0.20	20	50
San Juan		FC	23,428	400	1.70	400	520	90	23	0.39	60	16	0.27	22,363	40	0.20	20	70
San Pascual		FC	16,353	280	1.70	280	360	60	23	0.39	40	16	0.27	16,013	30	0.20	20	50
Santo Tomas		FC	34,116	580	1.70	580	750	130	23	0.39	90	16	0.27	35,749	70	0.20	40	110
Tanauan		CC	40,878	900	2.20	690	1,200	210	23	0.51	140	16	0.35	41,319	80	0.20	40	120
Other Municipalities*			185,135	3,100	1.70	3,100	4,100	720	23	0.39	500	16	0.27	178,657	-	0.00	-	-
<b>CAVITE</b>			835,860	23,400	2.79	14,200	25,100	5,200	22	0.62	3,200	14	0.38	874,776	2,100	0.24	1,000	3,200
Alfonso		FC	12,969	220	1.70	220	290	50	23	0.39	40	16	0.27	12,613	30	0.20	10	40
Bacoor	A	CC	141,558	5,200	3.70	4,200	9,200	790	15	0.56	520	10	0.37	150,545	300	0.20	70	450
Carmona		FC	21,352	470	2.20	360	640	110	23	0.51	80	16	0.35	22,263	40	0.20	20	70
Cavite	C	CC	26,303	970	3.70	790	1,700	220	23	0.85	160	16	0.59	27,263	490	1.79	330	830
Dasmaringas	A	CC	155,061	4,700	3.00	3,400	5,700	1,100	23	0.69	740	16	0.48	163,082	330	0.20	160	490
Gen. Mariano Alvarez		FC	37,206	630	1.70	630	820	150	23	0.39	100	16	0.27	37,331	70	0.20	40	110
Gen. Trias		FC	66,632	1,500	2.20	1,100	2,000	340	23	0.51	230	16	0.35	72,063	140	0.20	70	220
Imus	A	CC	82,040	3,000	3.70	2,500	5,300	910	30	1.11	240	8	0.30	90,847	180	0.20	90	270
Indang		FC	16,713	370	2.20	280	500	80	23	0.51	60	16	0.35	16,518	30	0.20	20	50
Kawit		FC	21,034	630	3.00	460	780	150	23	0.69	100	16	0.48	21,490	40	0.20	20	60
Naic		FC	23,504	520	2.20	400	710	120	23	0.51	80	16	0.35	24,061	50	0.20	20	70
Rosario		FC	25,808	570	2.20	440	770	130	23	0.51	90	16	0.35	27,342	50	0.20	30	80
Silang		FC	56,111	1,200	2.20	950	1,700	280	23	0.51	200	16	0.35	57,694	120	0.20	60	170
Tagaytay		CC	16,973	290	1.70	290	370	70	23	0.39	50	16	0.27	16,582	30	0.20	20	50
Tanza		FC	51,482	1,500	3.00	1,100	1,900	360	23	0.69	250	16	0.48	53,494	110	0.20	50	160
Trece Martires		CC	27,910	610	2.20	470	840	140	23	0.51	100	16	0.35	28,598	60	0.20	30	90

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2015 Size Estimation of Key Affected Populations in the Philippines

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
Other Municipalities*			53,204	900	1.70	900	1,200	210	23	0.39	140	16	0.27	52,990	-	0.00	-	-
<b>LAGUNA</b>			726,276	17,300	2.39	12,300	21,800	4,000	23	0.55	2,800	16	0.38	747,862	1,900	0.25	1,300	3,300
Binan		CC	78,908	2,400	3.00	1,700	2,900	540	23	0.69	380	16	0.48	82,084	160	0.20	80	250
Cabuyao		CC	68,608	1,500	2.20	1,200	2,100	350	23	0.51	240	16	0.35	72,303	140	0.20	70	220
Calamba	C	CC	107,019	2,400	2.20	1,800	3,200	540	23	0.51	380	16	0.35	112,652	230	0.20	30	340
Los Banos		FC	27,350	600	2.20	460	820	140	23	0.51	100	16	0.35	28,462	60	0.20	30	90
San Pablo	C	CC	65,741	1,400	2.20	1,100	2,000	330	23	0.51	230	16	0.35	66,910	130	0.20	90	220
San Pedro**	C		79,630	2,400	3.00	1,800	2,900	550	23	0.69	380	16	0.48	83,590	170	0.20	80	250
Sta. Cruz		FC	29,677	500	1.70	500	650	120	23	0.39	80	16	0.27	29,276	820	2.80	800	1,700
Sta. Rosa	A	CC	79,303	2,900	3.70	2,400	5,200	670	23	0.85	470	16	0.59	88,041	180	0.20	90	260
Other Municipalities*			190,040	3,200	1.70	3,200	4,200	740	23	0.39	520	16	0.27	184,544	-	0.00	-	-
<b>QUEZON</b>			514,947	9,200	1.79	8,800	15,400	2,100	23	0.41	1,500	16	0.29	488,378	660	0.14	330	1,000
Atimonan		FC	16,260	280	1.70	280	360	60	23	0.39	40	16	0.27	15,322	30	0.20	20	50
Calauag		FC	17,912	300	1.70	300	390	70	23	0.39	50	16	0.27	16,675	30	0.20	20	50
Candelaria		FC	29,162	500	1.70	500	640	110	23	0.39	80	16	0.27	28,822	60	0.20	30	90
Catanauan		FC	16,530	280	1.70	280	360	60	23	0.39	40	16	0.27	15,207	30	0.20	20	50
Gen. Nakar		FC	6,824	120	1.70	120	150	30	23	0.39	20	16	0.27	6,222	10	0.20	10	20
Gumaca		FC	18,106	310	1.70	310	400	70	23	0.39	50	16	0.27	17,066	30	0.20	20	50
Lopez		FC	24,016	410	1.70	410	530	90	23	0.39	70	16	0.27	22,247	40	0.20	20	70
Lucena	C	CC	64,877	1,100	1.70	1,100	1,400	250	23	0.39	180	16	0.27	65,714	130	0.20	70	200
Mauban		FC	16,182	280	1.70	280	360	60	23	0.39	40	16	0.27	14,756	30	0.20	10	40
Mulanay		FC	12,429	210	1.70	210	270	50	23	0.39	30	16	0.27	11,361	20	0.20	10	30
Pagbilao		FC	17,142	290	1.70	290	380	70	23	0.39	50	16	0.27	16,676	30	0.20	20	50
Real		FC	9,436	160	1.70	160	210	40	23	0.39	30	16	0.27	8,788	20	0.20	10	30
Sariaya		FC	36,974	630	1.70	630	810	140	23	0.39	100	16	0.27	35,336	70	0.20	40	110
Tagkawayan		FC	12,547	210	1.70	210	280	50	23	0.39	30	16	0.27	11,629	20	0.20	10	30
Tayabas		CC	24,252	900	3.70	730	1,600	210	23	0.85	140	16	0.59	23,199	50	0.20	20	70
Tiaong		FC	24,247	410	1.70	410	530	90	23	0.39	70	16	0.27	23,658	50	0.20	20	70
Other Municipalities*			168,051	2,900	1.70	2,900	3,700	660	23	0.39	460	16	0.27	155,700	-	0.00	-	-
<b>RIZAL</b>			672,656	20,400	3.03	11,400	20,400	5,200	25	0.77	3,400	17	0.51	685,625	1,500	0.22	790	2,400
Angono		FC	27,690	610	2.20	470	830	140	23	0.51	100	16	0.35	28,590	60	0.20	30	90
Antipolo	A	CC	182,534	6,800	3.70	5,500	11,900	2,000	30	1.11	1,200	18	0.67	187,453	370	0.20	190	560
Binangonan		FC	67,968	1,500	2.20	1,200	2,000	340	23	0.51	240	16	0.35	68,278	140	0.20	70	200
Cainta	A	FC	85,200	3,200	3.70	2,600	5,500	730	23	0.85	500	16	0.59	91,412	450	0.49	310	760
Pililla		FC	15,976	270	1.70	270	350	60	23	0.39	40	16	0.27	15,351	30	0.20	20	50
Rodriguez		FC	75,694	2,300	3.00	1,700	2,800	520	23	0.69	360	16	0.48	76,444	150	0.20	80	230
San Mateo	C	FC	55,541	2,100	3.70	1,700	3,600	470	23	0.85	330	16	0.59	56,876	110	0.20	60	170
Tanay		FC	26,096	440	1.70	440	570	100	23	0.39	70	16	0.27	25,213	50	0.20	30	80
Taytay	C	FC	78,790	2,400	3.00	1,700	2,900	540	23	0.69	380	16	0.48	80,376	160	0.20	30	240
Other Municipalities*			57,167	970	1.70	970	1,300	220	23	0.39	160	16	0.27	55,632	-	0.00	-	-
<b>REGION IV-B</b>			696,202	12,900	1.86	11,800	20,900	2,800	22	0.40	2,100	16	0.30	650,546	930	0.14	580	2,200
<b>MARINDUQUE</b>			54,211	920	1.70	920	1,600	210	23	0.39	150	16	0.27	50,863	50	0.09	20	70
Boac		FC	12,668	220	1.70	220	280	50	23	0.39	30	16	0.27	12,047	20	0.20	10	40
Santa Cruz (ME)		FC	12,384	210	1.70	210	270	50	23	0.39	30	16	0.27	12,082	20	0.20	10	40
Other Municipalities*			29,159	500	1.70	500	640	110	23	0.39	80	16	0.27	26,734	-	0.00	-	-
<b>OCCIDENTAL MINDORO</b>			115,634	2,000	1.70	2,000	3,500	450	23	0.39	310	16	0.27	106,450	160	0.15	100	500
Mamburao**			10,117	170	1.70	170	220	40	23	0.39	30	16	0.27	9,590	40	0.37	30	120
Sablayan		FC	19,372	330	1.70	330	430	80	23	0.39	50	16	0.27	17,708	40	0.20	20	50
San Jose		FC	33,188	560	1.70	560	730	130	23	0.39	90	16	0.27	31,666	70	0.22	50	270
Santa Cruz (OM)		FC	9,294	160	1.70	160	200	40	23	0.39	30	16	0.27	8,289	20	0.20	10	60
Other Municipalities*			43,663	740	1.70	740	960	170	23	0.39	120	16	0.27	39,197	-	0.00	-	-

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				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
<b>ORIENTAL MINDORO</b>			201,624	3,400	1.70	3,400	6,000	790	23	0.39	550	16	0.27	190,090	200	0.10	110	460
Bongabong		FC	16,503	280	1.70	280	360	60	23	0.39	40	16	0.27	15,275	30	0.20	20	50
Calapan		CC	32,587	550	1.70	550	720	130	23	0.39	90	16	0.27	31,754	70	0.21	50	260
Naujan		FC	24,195	410	1.70	410	530	90	23	0.39	70	16	0.27	22,170	40	0.20	20	70
Pinamalayan		FC	21,027	360	1.70	360	460	80	23	0.39	60	16	0.27	20,162	40	0.20	20	60
Puerto Galera	C	FC	8,843	150	1.70	150	190	30	23	0.39	20	16	0.27	8,537	20	0.20	10	30
Other Municipalities*			98,469	1,700	1.70	1,700	2,200	390	23	0.39	270	16	0.27	92,192	-	0.00	-	-
<b>PALAWAN</b>			255,633	5,500	2.13	4,300	7,700	1,100	20	0.42	870	16	0.34	239,348	500	0.21	320	970
Aborlan		FC	8,395	140	1.70	140	180	30	23	0.39	20	16	0.27	7,491	10	0.20	10	20
Bataraza		FC	15,927	270	1.70	270	350	60	23	0.39	40	16	0.27	15,190	30	0.20	20	50
Brooke's Point		FC	15,431	260	1.70	260	340	60	23	0.39	40	16	0.27	14,458	30	0.20	10	40
Coron		FC	10,998	190	1.70	190	240	40	23	0.39	30	16	0.27	10,263	70	0.68	60	200
El Nido		FC	9,363	160	1.70	160	210	40	23	0.39	30	16	0.27	8,233	20	0.20	10	30
Narra		FC	16,710	280	1.70	280	370	70	23	0.39	50	16	0.27	15,557	60	0.37	50	170
Puerto Princesa	B	CC	58,431	2,100	3.59	1,800	3,800	320	15	0.54	340	16	0.58	59,190	160	0.28	110	280
Quezon		FC	13,870	240	1.70	240	310	50	23	0.39	40	16	0.27	12,917	30	0.20	10	40
Rizal		FC	10,915	190	1.70	190	240	40	23	0.39	30	16	0.27	10,059	20	0.20	10	30
Roxas		FC	16,055	270	1.70	270	350	60	23	0.39	40	16	0.27	14,499	30	0.20	10	40
San Vicente		FC	8,144	140	1.70	140	180	30	23	0.39	20	16	0.27	7,233	10	0.20	10	20
Taytay		FC	17,919	300	1.70	300	390	70	23	0.39	50	16	0.27	15,669	30	0.20	20	50
Other Municipalities*			53,475	910	1.70	910	1,200	210	23	0.39	150	16	0.27	48,589	-	0.00	-	-
<b>ROMBLON</b>			69,100	1,200	1.70	1,200	2,100	270	23	0.39	190	16	0.27	63,795	30	0.04	20	180
Odiongan*			11,186	190	1.70	190	250	40	23	0.39	30	16	0.27	10,589	30	0.24	20	180
Other Municipalities*			57,914	980	1.70	980	1,300	230	23	0.39	160	16	0.27	53,206	-	0.00	-	-
<b>REGION V</b>			1,334,609	22,900	1.72	22,700	40,000	5,300	23	0.39	3,700	16	0.27	1,241,965	1,400	0.11	760	2,600
<b>ALBAY</b>			311,230	5,300	1.70	3,100	9,300	1,200	23	0.39	850	16	0.27	294,349	450	0.15	220	870
Camalig		FC	15,971	270	1.70	270	350	60	23	0.39	40	16	0.27	14,889	30	0.20	10	40
Daraga		FC	30,407	520	1.70	520	670	120	23	0.39	80	16	0.27	29,943	60	0.20	20	280
Guinobatan		FC	19,359	330	1.70	330	430	80	23	0.39	50	16	0.27	18,312	40	0.20	20	50
Legazpi	C	CC	47,751	810	1.70	810	1,100	190	23	0.39	130	16	0.27	47,695	100	0.20	50	140
Libon		FC	17,001	290	1.70	290	370	70	23	0.39	50	16	0.27	15,716	30	0.20	20	50
Ligao		CC	26,098	440	1.70	440	570	100	23	0.39	70	16	0.27	24,476	50	0.20	20	70
Oas		FC	15,936	270	1.70	270	350	60	23	0.39	40	16	0.27	14,351	30	0.20	10	40
Polangui		FC	20,542	350	1.70	350	450	80	23	0.39	60	16	0.27	19,664	40	0.20	20	60
Tabaco		CC	31,912	540	1.70	540	700	120	23	0.39	90	16	0.27	29,984	60	0.20	30	90
Tiwi		FC	12,581	210	1.70	210	280	50	23	0.39	30	16	0.27	11,682	20	0.20	10	40
Other Municipalities*			73,672	1,300	1.70	1,300	1,600	290	23	0.39	200	16	0.27	67,637	-	0.00	-	-
<b>CAMARINES NORTE</b>			136,773	2,300	1.70	1,400	4,100	530	23	0.39	370	16	0.27	126,942	190	0.15	150	430
Daet		FC	23,603	400	1.70	400	520	90	23	0.39	60	16	0.27	24,019	150	0.61	130	370
Labo		FC	23,589	400	1.70	400	520	90	23	0.39	60	16	0.27	21,710	40	0.20	20	70
Other Municipalities*			89,581	1,500	1.70	1,500	2,000	350	23	0.39	240	16	0.27	81,213	-	0.00	-	-
<b>CAMARINES SUR</b>			450,923	7,900	1.75	7,700	13,500	1,800	23	0.40	1,300	16	0.28	419,214	430	0.10	240	670
Buhi		FC	17,733	300	1.70	300	390	70	23	0.39	50	16	0.27	16,380	30	0.20	20	50
Calabanga		FC	19,588	330	1.70	330	430	80	23	0.39	50	16	0.27	17,886	40	0.20	20	50
Iriga		CC	26,656	450	1.70	450	590	100	23	0.39	70	16	0.27	25,407	50	0.20	30	80
Libmanan		FC	24,403	410	1.70	410	540	100	23	0.39	70	16	0.27	22,151	40	0.20	20	70
Nabua		FC	19,502	330	1.70	330	430	80	23	0.39	50	16	0.27	18,846	40	0.20	20	60
Naga	C	CC	44,473	980	2.20	760	1,300	230	23	0.51	160	16	0.35	46,542	110	0.24	80	190
Pili		FC	20,361	350	1.70	350	450	80	23	0.39	60	16	0.27	19,410	40	0.20	20	60
Ragay		FC	13,756	230	1.70	230	300	50	23	0.39	40	16	0.27	12,519	30	0.20	10	40
Sipocot		FC	16,081	270	1.70	270	350	60	23	0.39	40	16	0.27	14,814	30	0.20	10	40

\* 2<sup>nd</sup> to 5<sup>th</sup> class municipalities

\*\*2<sup>nd</sup> to 5<sup>th</sup> class municipalities with FSW SHC counts

CC-chartered cities

FC-first class municipalities



2015 Size Estimation of Key Affected Populations in the Philippines

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
Tinambac		FC	14,940	250	1.70	250	330	60	23	0.39	40	16	0.27	13,409	30	0.20	10	40
Other Municipalities*			233,430	4,000	1.70	4,000	5,100	910	23	0.39	630	16	0.27	211,850	-	0.00	-	-
<b>CATANDUANES</b>			60,454	1,000	1.70	1,000	1,800	240	23	0.39	160	16	0.27	55,124	30	0.06	20	50
Virac		FC	16,766	290	1.70	290	370	70	23	0.39	50	16	0.27	16,329	30	0.20	20	50
Other Municipalities*			43,688	740	1.70	740	960	170	23	0.39	120	16	0.27	38,795	-	0.00	-	-
<b>MASBATE</b>			193,048	3,300	1.70	3,300	5,800	750	23	0.39	530	16	0.27	177,745	90	0.05	50	140
Aroroy		FC	17,975	310	1.70	310	400	70	23	0.39	50	16	0.27	16,128	30	0.20	20	50
Masbate		CC	20,563	350	1.70	350	450	80	23	0.39	60	16	0.27	19,981	40	0.20	20	60
Milagros		FC	12,263	210	1.70	210	270	50	23	0.39	30	16	0.27	11,176	20	0.20	10	30
Other Municipalities*			142,247	2,400	1.70	2,400	3,100	560	23	0.39	390	16	0.27	130,460	-	0.00	-	-
<b>SORSOGON</b>			182,181	3,100	1.70	3,100	5,500	710	23	0.39	500	16	0.27	168,591	150	0.09	90	440
Bulan		FC	23,829	410	1.70	410	520	90	23	0.39	60	16	0.27	21,700	40	0.20	20	70
Pilar		FC	16,805	290	1.70	290	370	70	23	0.39	50	16	0.27	15,181	30	0.20	20	50
Sorsogon		CC	38,061	650	1.70	650	840	150	23	0.39	100	16	0.27	37,144	80	0.21	50	330
Other Municipalities*			103,486	1,800	1.70	1,800	2,300	400	23	0.39	280	16	0.27	94,566	-	0.00	-	-
<b>REGION VI</b>			1,108,125	19,400	1.75	18,800	33,200	4,200	22	0.38	3,300	17	0.29	1,036,309	1,500	0.14	1,100	1,700
<b>AKLAN</b>			141,368	2,600	1.81	2,400	4,200	590	23	0.42	410	16	0.29	132,154	60	0.05	30	100
Kalibo		FC	19,796	440	2.20	340	590	100	23	0.51	70	16	0.35	19,844	40	0.20	20	60
Malay		FC	12,483	270	2.20	210	370	60	23	0.51	40	16	0.35	11,866	20	0.20	10	40
Other Municipalities*			109,089	1,900	1.70	1,900	2,400	430	23	0.39	300	16	0.27	100,444	-	0.00	-	-
<b>ANTIQUE</b>			141,347	2,400	1.70	2,400	4,200	550	23	0.39	380	16	0.27	128,123	40	0.03	20	70
Caluya		FC	8,066	140	1.70	140	180	30	23	0.39	20	16	0.27	6,921	10	0.20	10	20
San Jose		FC	15,359	260	1.70	260	340	60	23	0.39	40	16	0.27	14,848	30	0.20	10	40
Other Municipalities*			117,922	2,000	1.70	2,000	2,600	460	23	0.39	320	16	0.27	106,354	-	0.00	-	-
<b>CAPIZ</b>			189,922	3,200	1.70	3,200	5,700	740	23	0.39	520	16	0.27	176,573	110	0.06	50	160
Roxas		CC	41,252	700	1.70	700	910	160	23	0.39	110	16	0.27	40,904	80	0.20	40	120
Tapaz		FC	12,718	220	1.70	220	280	50	23	0.39	30	16	0.27	11,893	20	0.20	10	40
Other Municipalities*			135,952	2,300	1.70	2,300	3,000	530	23	0.39	370	16	0.27	123,776	-	0.00	-	-
<b>GUIMARAS</b>			44,414	760	1.70	760	1,300	170	23	0.39	120	16	0.27	40,009	-	0.00	-	-
Other Municipalities*			44,414	760	1.70	760	980	170	23	0.39	120	16	0.27	40,009	-	0.00	-	-
<b>ILOILO</b>			591,074	10,500	1.77	10,000	17,700	2,100	20	0.36	1,800	17	0.31	559,450	1,300	0.23	1,000	1,400
Calinog		FC	14,009	310	2.20	240	420	70	23	0.51	50	16	0.35	12,837	30	0.20	10	40
Dumangas		FC	17,693	300	1.70	300	390	70	23	0.39	50	16	0.27	16,571	30	0.20	20	50
Iloilo		CC	113,794	2,200	1.93	1,200	3,100	220	10	0.19	510	23	0.44	118,361	990	0.84	900	990
Janiuay		FC	16,723	280	1.70	280	370	70	23	0.39	50	16	0.27	15,445	30	0.20	20	50
Lambunao		FC	18,084	310	1.70	310	400	70	23	0.39	50	16	0.27	16,715	30	0.20	20	50
Miagao		FC	17,191	290	1.70	290	380	70	23	0.39	50	16	0.27	15,903	30	0.20	20	50
Oton		FC	22,258	380	1.70	380	490	90	23	0.39	60	16	0.27	21,967	40	0.20	20	70
Passi		CC	21,193	360	1.70	360	470	80	23	0.39	60	16	0.27	19,414	40	0.20	20	60
Pototan		FC	18,603	410	2.20	320	560	90	23	0.51	70	16	0.35	17,515	40	0.20	20	50
Other Municipalities*			331,526	5,600	1.70	5,600	7,300	1,300	23	0.39	900	16	0.27	304,722	-	0.00	-	-
<b>REGION VII</b>			1,446,473	31,700	2.19	24,600	43,400	7,200	23	0.50	5,400	17	0.37	1,411,104	4,100	0.29	2,600	4,900
<b>BOHOL</b>			311,607	5,400	1.74	5,300	9,300	1,200	23	0.40	870	16	0.28	292,610	150	0.05	80	230
Carmen		FC	11,100	190	1.70	190	240	40	23	0.39	30	16	0.27	9,902	20	0.20	10	30
Tagbilaran		CC	25,479	560	2.20	430	760	130	23	0.51	90	16	0.35	27,098	50	0.20	30	80
Talibon		FC	15,058	260	1.70	260	330	60	23	0.39	40	16	0.27	14,309	30	0.20	10	40
Tubigon		FC	11,322	190	1.70	190	250	40	23	0.39	30	16	0.27	10,608	20	0.20	10	30
Ubay		FC	16,377	280	1.70	280	360	60	23	0.39	40	16	0.27	15,147	30	0.20	20	50
Other Municipalities*			232,271	3,900	1.70	3,900	5,100	910	23	0.39	630	16	0.27	215,546	-	0.00	-	-
<b>CEBU</b>			1,111,873	25,900	2.33	18,900	33,400	5,800	23	0.52	4,400	17	0.40	1,097,060	3,900	0.36	2,500	4,700
Argao		FC	18,711	320	1.70	320	410	70	23	0.39	50	16	0.27	16,952	30	0.20	20	50

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Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
Balabnan		FC	19,131	330	1.70	330	420	70	23	0.39	50	16	0.27	17,420	30	0.20	20	50
Bantayan		FC	19,481	330	1.70	330	430	80	23	0.39	50	16	0.27	18,025	40	0.20	20	50
Bogo		CC	18,144	310	1.70	310	400	70	23	0.39	50	16	0.27	17,568	40	0.20	20	50
Carcar		CC	28,319	480	1.70	480	620	110	23	0.39	80	16	0.27	26,573	50	0.20	30	80
Cebu	A	CC	238,748	9,600	4.02	3,300	15,800	1,800	19	0.76	2,000	21	0.84	249,586	2,600	1.04	1,700	2,600
Consolacion		FC	29,226	640	2.20	500	880	150	23	0.51	100	16	0.35	29,799	60	0.20	30	90
Daan Bantayan		FC	18,332	310	1.70	310	400	70	23	0.39	50	16	0.27	17,029	30	0.20	20	50
Dalaguete		FC	16,086	270	1.70	270	350	60	23	0.39	40	16	0.27	14,158	30	0.20	10	40
Danao	A	CC	31,589	690	2.20	540	950	160	23	0.51	110	16	0.35	30,928	60	0.20	30	90
Lapu-Lapu	A	CC	96,323	1,600	1.70	1,600	2,100	380	23	0.39	260	16	0.27	102,450	200	0.20	100	310
Liloan		FC	27,248	460	1.70	460	600	110	23	0.39	70	16	0.27	27,592	60	0.20	30	80
Mandaue	A	CC	95,341	2,400	2.52	1,500	4,500	720	30	0.76	190	8	0.20	98,219	390	0.40	270	660
Minglanilla		FC	30,008	510	1.70	510	660	120	23	0.39	80	16	0.27	30,571	60	0.20	30	90
Naga	A	CC	26,971	460	1.70	460	590	110	23	0.39	70	16	0.27	25,898	50	0.20	30	80
Talisay	A	CC	54,133	1,300	2.40	1,100	1,500	390	30	0.72	210	16	0.38	55,477	110	0.20	60	170
Toledo	C	CC	40,821	690	1.70	690	900	160	23	0.39	110	16	0.27	38,128	80	0.20	40	110
Other Municipalities*			303,261	5,200	1.70	5,200	6,700	1,200	23	0.39	820	16	0.27	280,687	-	0.00	-	-
<b>SQUIJOR</b>			22,993	390	1.70	390	690	90	23	0.39	60	16	0.27	21,434	20	0.09	10	30
Larena		FC	3,304	60	1.70	60	70	10	23	0.39	10	16	0.27	3,342	10	0.20	-	10
Siquijor		FC	6,656	110	1.70	110	150	30	23	0.39	20	16	0.27	6,229	10	0.20	10	20
Other Municipalities*			13,033	220	1.70	220	290	50	23	0.39	40	16	0.27	11,863	-	0.00	-	-
<b>REGION VIII</b>			1,020,505	17,600	1.73	17,300	30,600	4,100	23	0.40	2,800	16	0.28	932,332	650	0.07	330	1,200
<b>BILIRAN</b>			39,533	670	1.70	670	1,200	150	23	0.39	110	16	0.27	36,058	-	0.00	-	-
Other Municipalities*			39,533	670	1.70	670	870	150	23	0.39	110	16	0.27	36,058	-	0.00	-	-
<b>EASTERN SAMAR</b>			106,009	1,800	1.70	1,800	3,200	410	23	0.39	290	16	0.27	94,233	30	0.03	20	50
Borongan		CC	16,300	280	1.70	280	360	60	23	0.39	40	16	0.27	15,083	30	0.20	20	50
Other Municipalities*			89,709	1,500	1.70	1,500	2,000	350	23	0.39	240	16	0.27	79,150	-	0.00	-	-
<b>LEYTE</b>			453,462	8,000	1.76	7,700	13,600	1,800	23	0.41	1,300	16	0.28	416,901	380	0.09	200	840
Abuyog		FC	14,033	240	1.70	240	310	50	23	0.39	40	16	0.27	12,627	30	0.25	20	50
Baybay		CC	26,188	450	1.70	450	580	100	23	0.39	70	16	0.27	23,792	50	0.20	20	70
Burauen		FC	12,691	220	1.70	220	280	50	23	0.39	30	16	0.27	11,504	20	0.20	10	30
Isabel		FC	11,742	200	1.70	200	260	50	23	0.39	30	16	0.27	11,174	20	0.20	10	30
Kananga		FC	12,111	210	1.70	210	270	50	23	0.39	30	16	0.27	10,811	20	0.20	10	30
Ormoc		CC	49,506	840	1.70	840	1,100	190	23	0.39	130	16	0.27	46,826	110	0.25	80	450
Tacloban	C	CC	57,532	1,300	2.20	980	1,700	290	23	0.51	200	16	0.35	58,353	120	0.20	40	180
Other Municipalities*			269,659	4,600	1.70	4,600	5,900	1,100	23	0.39	730	16	0.27	241,814	-	0.00	-	-
<b>NORTHERN SAMAR</b>			140,921	2,400	1.70	2,400	4,200	550	23	0.39	380	16	0.27	130,444	40	0.03	20	70
Catarman		FC	20,599	350	1.70	350	450	80	23	0.39	60	16	0.27	19,878	40	0.20	20	60
San Antonio		FC	2,093	40	1.70	40	50	10	23	0.39	10	16	0.27	1,903	-	0.20	-	10
Other Municipalities*			118,229	2,000	1.70	2,000	2,600	460	23	0.39	320	16	0.27	108,663	-	0.00	-	-
<b>SAMAR</b>			180,143	3,100	1.70	3,100	5,400	700	23	0.39	490	16	0.27	161,906	150	0.09	70	220
Basey		FC	12,139	210	1.70	210	270	50	23	0.39	30	16	0.27	10,420	20	0.20	10	30
Calbayog		CC	43,157	730	1.70	730	950	170	23	0.39	120	16	0.27	39,788	80	0.20	40	120
Catbalogan		CC	23,530	400	1.70	400	520	90	23	0.39	60	16	0.27	22,525	50	0.20	20	70
Other Municipalities*			101,317	1,700	1.70	1,700	2,200	400	23	0.39	280	16	0.27	89,173	-	0.00	-	-
<b>SOUTHERN LEYTE</b>			100,437	1,700	1.70	1,700	3,000	390	23	0.39	270	16	0.27	92,790	50	0.05	20	70
Liloan		FC	5,513	90	1.70	90	120	20	23	0.39	10	16	0.27	5,045	10	0.20	10	20
Maasin		CC	20,641	350	1.70	350	450	80	23	0.39	60	16	0.27	19,704	40	0.20	20	60
Other Municipalities*			74,283	1,300	1.70	1,300	1,600	290	23	0.39	200	16	0.27	68,041	-	0.00	-	-
<b>REGION IX</b>			884,789	16,100	1.82	15,000	26,500	3,600	22	0.40	2,800	17	0.31	845,123	1,000	0.12	560	2,000
<b>CITY OF ISABELA</b>			24,785	420	1.70	420	740	100	23	0.39	70	16	0.27	25,880	50	0.20	10	230

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				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
Isabela		CC	24,785	420	1.70	420	550	100	23	0.39	70	16	0.27	25,880	50	0.20	10	230
<b>ZAMBOANGA DEL NORTE</b>			246,427	4,200	1.70	4,200	7,400	960	23	0.39	670	16	0.27	229,621	140	0.06	70	220
Dapitan		CC	19,181	330	1.70	330	420	70	23	0.39	50	16	0.27	18,069	40	0.20	20	50
Dipolog		CC	31,582	540	1.70	540	690	120	23	0.39	90	16	0.27	31,594	60	0.20	30	90
Sindangan		FC	24,220	410	1.70	410	530	90	23	0.39	70	16	0.27	22,361	40	0.20	20	70
Other Municipalities*			171,444	2,900	1.70	2,900	3,800	670	23	0.39	470	16	0.27	157,597	-	0.00	-	-
<b>ZAMBOANGA DEL SUR</b>			460,267	8,900	1.93	7,800	13,800	1,900	21	0.41	1,600	18	0.35	447,559	770	0.17	460	1,500
Molave		FC	13,038	220	1.70	220	290	50	23	0.39	40	16	0.27	12,342	20	0.20	10	40
Pagadian		CC	49,416	840	1.70	840	1,100	190	23	0.39	130	16	0.27	50,730	100	0.20	50	410
Zamboanga	A	CC	211,571	4,700	2.20	3,600	6,300	930	20	0.44	930	20	0.44	213,679	650	0.30	410	1,000
Other Municipalities*			186,242	3,200	1.70	3,200	4,100	730	23	0.39	510	16	0.27	170,808	-	0.00	-	-
<b>ZAMBOANGA SIBUGAY</b>			153,310	2,600	1.70	2,600	4,600	600	23	0.39	420	16	0.27	142,063	30	0.02	20	50
Ipil		FC	17,133	290	1.70	290	380	70	23	0.39	50	16	0.27	16,930	30	0.20	20	50
Other Municipalities*			136,177	2,300	1.70	2,300	3,000	530	23	0.39	370	16	0.27	125,133	-	0.00	-	-
<b>REGION X</b>			1,130,181	20,900	1.85	19,200	33,900	4,600	22	0.41	3,200	15	0.28	1,074,722	2,600	0.24	1,600	3,800
<b>BUKIDNON</b>			346,112	5,900	1.70	5,900	10,400	1,400	23	0.39	940	16	0.27	313,339	640	0.20	380	1,200
Don Carlos		FC	17,059	290	1.70	290	380	70	23	0.39	50	16	0.27	15,484	30	0.20	20	50
Impasug-ong		FC	11,554	200	1.70	200	250	50	23	0.39	30	16	0.27	9,891	20	0.20	10	30
Kitaotao		FC	12,793	220	1.70	220	280	50	23	0.39	30	16	0.27	11,367	20	0.20	10	30
Lantapan		FC	14,911	250	1.70	250	330	60	23	0.39	40	16	0.27	13,022	30	0.20	10	40
Libona		FC	11,144	190	1.70	190	250	40	23	0.39	30	16	0.27	9,696	20	0.20	10	30
Malaybalay		CC	40,934	700	1.70	700	900	160	23	0.39	110	16	0.27	38,536	80	0.20	10	290
Manolo Fortich		FC	24,658	420	1.70	420	540	100	23	0.39	70	16	0.27	22,952	50	0.20	20	70
Maramag		FC	24,382	410	1.70	410	540	100	23	0.39	70	16	0.27	22,379	40	0.20	20	70
Pangantucan		FC	12,903	220	1.70	220	280	50	23	0.39	40	16	0.27	11,328	20	0.20	10	30
Quezon		FC	24,624	420	1.70	420	540	100	23	0.39	70	16	0.27	22,235	40	0.20	20	70
San Fernando		FC	13,031	220	1.70	220	290	50	23	0.39	40	16	0.27	11,799	20	0.20	10	40
Talakag		FC	16,995	290	1.70	290	370	70	23	0.39	50	16	0.27	15,668	30	0.20	20	50
Valencia		CC	49,821	850	1.70	850	1,100	190	23	0.39	140	16	0.27	46,561	230	0.50	200	380
Other Municipalities*			71,303	1,200	1.70	1,200	1,600	280	23	0.39	190	16	0.27	62,421	-	0.00	-	-
<b>CAMIGUIN</b>			21,119	360	1.70	360	630	80	23	0.39	60	16	0.27	19,550	-	0.00	-	-
Other Municipalities*			21,119	360	1.70	360	460	80	23	0.39	60	16	0.27	19,550	-	0.00	-	-
<b>LANAO DEL NORTE</b>			236,790	4,000	1.70	4,000	7,100	930	23	0.39	640	16	0.27	235,633	200	0.09	40	310
Iligan	C	CC	85,419	1,500	1.70	1,500	1,900	330	23	0.39	230	16	0.27	86,469	170	0.20	30	260
Lala		FC	17,302	290	1.70	290	380	70	23	0.39	50	16	0.27	15,848	30	0.20	20	50
Other Municipalities*			134,069	2,300	1.70	2,300	2,900	520	23	0.39	360	16	0.27	133,316	-	0.00	-	-
<b>MISAMIS OCCIDENTAL</b>			147,368	2,500	1.70	2,500	4,400	580	23	0.39	400	16	0.27	139,283	150	0.11	80	490
Oroquieta		CC	17,933	300	1.70	300	390	70	23	0.39	50	16	0.27	17,468	50	0.30	40	160
Ozamis		CC	35,012	600	1.70	600	770	140	23	0.39	100	16	0.27	34,362	70	0.20	30	290
Tangub		CC	15,470	260	1.70	260	340	60	23	0.39	40	16	0.27	14,539	30	0.20	10	40
Other Municipalities*			78,953	1,300	1.70	1,300	1,700	310	23	0.39	210	16	0.27	72,914	-	0.00	-	-
<b>MISAMIS ORIENTAL</b>			378,792	8,100	2.15	6,400	11,400	1,600	20	0.43	1,100	14	0.30	366,917	1,600	0.43	1,100	1,800
Cağayan de Oro	A	CC	165,450	4,500	2.72	3,000	6,500	810	18	0.49	540	12	0.33	168,845	1,400	0.86	1,100	1,400
Claveria		FC	12,071	210	1.70	210	270	50	23	0.39	30	16	0.27	10,263	20	0.20	10	30
El Salvador		CC	12,326	210	1.70	210	270	50	23	0.39	30	16	0.27	11,569	20	0.20	10	40
Gingoog		CC	29,299	500	1.70	500	640	110	23	0.39	80	16	0.27	27,147	50	0.20	20	290
Tagoloan		FC	17,455	300	1.70	300	380	70	23	0.39	50	16	0.27	16,376	30	0.20	20	50
Other Municipalities*			142,191	2,400	1.70	2,400	3,100	560	23	0.39	390	16	0.27	132,717	-	0.00	-	-
<b>REGION XI</b>			1,209,049	24,000	1.98	20,600	36,300	5,900	25	0.49	4,200	18	0.35	1,145,552	2,400	0.21	1,500	3,000
<b>COMPOSTELA VALLEY</b>			192,845	3,500	1.79	3,300	5,800	800	23	0.41	550	16	0.29	167,637	280	0.17	140	420
Compostela		FC	22,690	390	1.70	390	500	90	23	0.39	60	16	0.27	20,368	40	0.20	20	60

\* 2<sup>nd</sup> to 5<sup>th</sup> class municipalities

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CC-chartered cities

FC-first class municipalities

2015 Size Estimation of Key Affected Populations in the Philippines

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
Laak		FC	19,254	330	1.70	330	420	80	23	0.39	50	16	0.27	16,391	30	0.20	20	50
Maco		FC	20,229	340	1.70	340	450	80	23	0.39	60	16	0.27	18,063	40	0.20	20	50
Maragusan		FC	15,667	340	2.20	270	470	80	23	0.51	60	16	0.35	13,343	30	0.20	10	40
Monkayo		FC	27,295	460	1.70	460	600	110	23	0.39	70	16	0.27	23,040	50	0.20	20	70
Nabunturan		FC	20,768	460	2.20	350	620	110	23	0.51	70	16	0.35	18,508	40	0.20	20	60
New Bataan		FC	13,352	230	1.70	230	290	50	23	0.39	40	16	0.27	11,259	20	0.20	10	30
Pantukan		FC	22,865	390	1.70	390	500	90	23	0.39	60	16	0.27	18,912	40	0.20	20	60
Other Municipalities*			30,725	520	1.70	520	680	120	23	0.39	80	16	0.27	27,753	-	0.00	-	-
<b>DAVAO DEL NORTE</b>			255,676	4,700	1.83	4,300	7,700	1,100	23	0.42	750	16	0.29	242,649	430	0.18	210	640
Asuncion		FC	15,351	260	1.70	260	340	60	23	0.39	40	16	0.27	13,664	30	0.20	10	40
Carmen		FC	19,189	330	1.70	330	420	80	23	0.39	50	16	0.27	17,459	30	0.20	20	50
Kapalong		FC	18,562	320	1.70	320	410	70	23	0.39	50	16	0.27	17,201	30	0.20	20	50
Panabo	C	CC	47,476	810	1.70	810	1,000	190	23	0.39	130	16	0.27	46,114	90	0.20	50	140
Samal		CC	25,437	430	1.70	430	560	100	23	0.39	70	16	0.27	23,239	50	0.20	20	70
Santo Tomas		FC	30,141	510	1.70	510	660	120	23	0.39	80	16	0.27	27,906	60	0.20	30	80
Tagum	C	CC	66,001	1,500	2.20	1,100	2,000	330	23	0.51	230	16	0.35	67,044	130	0.20	70	200
Other Municipalities*			33,519	570	1.70	570	740	130	23	0.39	90	16	0.27	30,022	-	0.00	-	-
<b>DAVAO DEL SUR</b>			624,845	13,500	2.17	10,600	18,700	3,500	26	0.56	2,500	19	0.41	613,914	1,600	0.26	1,000	1,700
Bansalan		FC	15,335	260	1.70	260	340	60	23	0.39	40	16	0.27	13,858	30	0.20	10	40
Davao	A	CC	393,667	9,300	2.36	6,500	13,400	2,500	27	0.64	1,900	20	0.47	400,216	1,400	0.34	920	1,400
Digos		CC	40,340	890	2.20	690	1,200	200	23	0.51	140	16	0.35	39,594	80	0.20	40	120
Jose Abad Santos		FC	17,525	300	1.70	300	390	70	23	0.39	50	16	0.27	15,760	30	0.20	20	50
Malita		FC	28,365	480	1.70	480	620	110	23	0.39	80	16	0.27	26,656	50	0.20	30	80
Sta. Cruz		FC	22,181	490	2.20	380	670	110	23	0.51	80	16	0.35	20,242	40	0.20	20	60
Other Municipalities*			107,432	1,800	1.70	1,800	2,400	420	23	0.39	290	16	0.27	97,588	-	0.00	-	-
<b>DAVAO ORIENTAL</b>			135,683	2,300	1.70	2,300	4,100	530	23	0.39	370	16	0.27	121,352	130	0.11	70	200
Baganga		FC	13,958	240	1.70	240	310	50	23	0.39	40	16	0.27	12,210	20	0.20	10	40
Caraga		FC	9,736	170	1.70	170	210	40	23	0.39	30	16	0.27	8,300	20	0.20	10	20
Lupon		FC	16,550	280	1.70	280	360	60	23	0.39	50	16	0.27	14,811	30	0.20	10	40
Mati		CC	32,614	550	1.70	550	720	130	23	0.39	90	16	0.27	30,734	60	0.20	30	90
Other Municipalities*			62,825	1,100	1.70	1,100	1,400	250	23	0.39	170	16	0.27	55,297	-	0.00	-	-
<b>REGION XII</b>			1,112,280	22,500	2.03	18,900	33,400	4,800	21	0.43	3,200	14	0.28	1,059,182	2,500	0.24	1,600	3,700
<b>COTABATO</b>			72,599	1,200	1.70	1,200	2,200	280	23	0.39	200	16	0.27	77,799	160	0.20	30	230
Cotabato	C	CC	72,599	1,200	1.70	1,200	1,600	280	23	0.39	200	16	0.27	77,799	160	0.20	30	230
<b>NORTH COTABATO</b>			329,195	5,600	1.70	5,600	9,900	1,300	23	0.39	900	16	0.27	308,048	500	0.16	240	950
Alamada		FC	15,313	260	1.70	260	340	60	23	0.39	40	16	0.27	13,613	30	0.20	10	40
Carmen		FC	21,706	370	1.70	370	480	80	23	0.39	60	16	0.27	20,215	40	0.20	20	60
Kabacan		FC	21,497	370	1.70	370	470	80	23	0.39	60	16	0.27	21,290	40	0.20	20	60
Kidapawan		CC	33,629	570	1.70	570	740	130	23	0.39	90	16	0.27	33,155	70	0.20	20	300
Magpet		FC	12,173	210	1.70	210	270	50	23	0.39	30	16	0.27	10,481	20	0.20	10	30
Makilala		FC	21,095	360	1.70	360	460	80	23	0.39	60	16	0.27	18,673	40	0.20	20	60
Matalam		FC	20,155	340	1.70	340	440	80	23	0.39	50	16	0.27	18,248	40	0.20	20	50
Midsayap		FC	36,070	610	1.70	610	790	140	23	0.39	100	16	0.27	34,842	70	0.20	30	100
Mlang		FC	23,665	400	1.70	400	520	90	23	0.39	60	16	0.27	21,874	40	0.20	20	70
Pigkawayan		FC	16,134	270	1.70	270	350	60	23	0.39	40	16	0.27	15,250	30	0.20	20	50
Pikit		FC	29,809	510	1.70	510	660	120	23	0.39	80	16	0.27	30,626	60	0.20	30	90
President Roxas		FC	12,003	200	1.70	200	260	50	23	0.39	30	16	0.27	10,857	20	0.20	10	30
Other Municipalities*			65,946	1,100	1.70	1,100	1,500	260	23	0.39	180	16	0.27	58,924	-	0.00	-	-
<b>SARANGANI</b>			132,190	2,200	1.70	2,200	4,000	520	23	0.39	360	16	0.27	121,432	220	0.18	110	330
Alabel		FC	19,626	330	1.70	330	430	80	23	0.39	50	16	0.27	18,278	40	0.20	20	50
Glan		FC	28,747	490	1.70	490	630	110	23	0.39	80	16	0.27	27,058	50	0.20	30	80

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## 2015 Size Estimation of Key Affected Populations in the Philippines

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
Kiamba		FC	14,729	250	1.70	250	320	60	23	0.39	40	16	0.27	13,040	30	0.20	10	40
Maasim		FC	14,078	240	1.70	240	310	60	23	0.39	40	16	0.27	12,489	20	0.20	10	40
Malapatan		FC	18,604	320	1.70	320	410	70	23	0.39	50	16	0.27	17,354	30	0.20	20	50
Malungon		FC	25,465	430	1.70	430	560	100	23	0.39	70	16	0.27	22,963	50	0.20	20	70
Other Municipalities*			10,941	190	1.70	190	240	40	23	0.39	30	16	0.27	10,250	-	0.00	-	-
<b>SOUTH COTABATO</b>			373,601	9,800	2.64	6,400	11,200	1,900	19	0.50	1,100	11	0.30	358,083	1,400	0.38	1,100	1,700
Banga		FC	21,090	360	1.70	360	460	80	23	0.39	60	16	0.27	19,057	40	0.20	20	60
General Santos	B	CC	149,891	5,000	3.34	3,300	8,500	750	15	0.50	350	7	0.23	148,907	1,000	0.69	910	1,000
Koronadal		CC	42,915	1,600	3.70	1,300	2,800	370	23	0.85	250	16	0.59	42,169	80	0.20	40	130
Lake Sebu		FC	19,057	320	1.70	320	420	70	23	0.39	50	16	0.27	17,670	40	0.20	20	50
Polomolok		FC	37,622	830	2.20	640	1,100	190	23	0.51	130	16	0.35	35,773	70	0.20	40	280
Surallah		FC	20,989	360	1.70	360	460	80	23	0.39	60	16	0.27	19,341	40	0.20	20	60
Tboli		FC	20,427	350	1.70	350	450	80	23	0.39	60	16	0.27	18,864	40	0.20	20	60
Tupi		FC	17,153	290	1.70	290	380	70	23	0.39	50	16	0.27	15,537	30	0.20	20	50
Other Municipalities*			44,457	760	1.70	760	980	170	23	0.39	120	16	0.27	40,765	-	0.00	-	-
<b>SULTAN KUDARAT</b>			204,695	3,600	1.76	3,500	6,100	830	23	0.40	580	16	0.28	193,820	250	0.13	140	510
Bagumbayan		FC	18,123	310	1.70	310	400	70	23	0.39	50	16	0.27	15,828	30	0.20	20	50
Columbio		FC	7,715	130	1.70	130	170	30	23	0.39	20	16	0.27	7,087	10	0.20	10	20
Esperanza		FC	17,597	300	1.70	300	390	70	23	0.39	50	16	0.27	16,768	30	0.20	20	50
Isulan		FC	23,461	520	2.20	400	700	120	23	0.51	80	16	0.35	22,762	50	0.20	20	70
Kalamansig		FC	12,129	210	1.70	210	270	50	23	0.39	30	16	0.27	11,140	20	0.20	10	30
Lebak		FC	22,240	380	1.70	380	490	90	23	0.39	60	16	0.27	20,177	40	0.20	20	60
Tacurong		CC	24,116	410	1.70	410	530	90	23	0.39	70	16	0.27	23,917	70	0.28	50	230
Other Municipalities*			79,314	1,300	1.70	1,300	1,700	310	23	0.39	220	16	0.27	76,141	-	0.00	-	-
<b>ARMM</b>			782,213	13,300	1.70	13,300	23,500	3,100	23	0.39	2,100	16	0.27	829,529	130	0.02	70	200
<b>BASILAN</b>			67,648	1,200	1.70	1,200	2,000	260	23	0.39	180	16	0.27	71,187	30	0.05	20	50
Lamitan		CC	16,684	280	1.70	280	370	70	23	0.39	50	16	0.27	17,098	30	0.20	20	50
Other Municipalities*			50,964	870	1.70	870	1,100	200	23	0.39	140	16	0.27	54,089	-	0.00	-	-
<b>LANAO DEL SUR</b>			215,092	3,700	1.70	3,700	6,500	840	23	0.39	590	16	0.27	237,484	100	0.04	50	150
Marawi		CC	43,981	750	1.70	750	970	170	23	0.39	120	16	0.27	49,683	100	0.20	50	150
Other Municipalities*			171,111	2,900	1.70	2,900	3,800	670	23	0.39	470	16	0.27	187,801	-	0.00	-	-
<b>MAGUINDANAO</b>			228,649	3,900	1.70	3,900	6,900	890	23	0.39	620	16	0.27	231,198	-	0.00	-	-
Other Municipalities*			228,649	3,900	1.70	3,900	5,000	890	23	0.39	620	16	0.27	231,198	-	0.00	-	-
<b>SULU</b>			180,223	3,100	1.70	3,100	5,400	700	23	0.39	490	16	0.27	195,581	-	0.00	-	-
Other Municipalities*			180,223	3,100	1.70	3,100	4,000	700	23	0.39	490	16	0.27	195,581	-	0.00	-	-
<b>TAWI-TAWI</b>			90,601	1,500	1.70	1,500	2,700	350	23	0.39	250	16	0.27	94,079	-	0.00	-	-
Other Municipalities*			90,601	1,500	1.70	1,500	2,000	350	23	0.39	250	16	0.27	94,079	-	0.00	-	-
<b>CAR</b>			445,796	8,100	1.81	7,600	13,400	1,900	24	0.43	1,200	15	0.26	423,531	1,400	0.33	790	1,500
<b>ABRA</b>			61,356	1,000	1.70	1,000	1,800	240	23	0.39	170	16	0.27	56,841	20	0.04	10	30
Bangued		FC	11,371	190	1.70	190	250	40	23	0.39	30	16	0.27	11,277	20	0.20	10	30
Other Municipalities*			49,985	850	1.70	850	1,100	200	23	0.39	140	16	0.27	45,564	-	0.00	-	-
<b>APAYAO</b>			30,489	520	1.70	520	910	120	23	0.39	80	16	0.27	27,893	10	0.05	10	20
Calanasan		FC	3,251	60	1.70	60	70	10	23	0.39	10	16	0.27	2,964	10	0.20	-	10
Kabugao		FC	4,358	70	1.70	70	100	20	23	0.39	10	16	0.27	4,022	10	0.20	-	10
Other Municipalities*			22,880	390	1.70	390	500	90	23	0.39	60	16	0.27	20,907	-	0.00	-	-
<b>BENGUET</b>			206,647	4,000	1.93	3,500	6,200	1,000	25	0.48	520	13	0.25	204,374	1,300	0.63	740	1,300
Baguio	B	CC	89,293	2,000	2.24	1,600	2,500	540	27	0.60	200	10	0.22	96,428	1,100	1.19	670	1,100
Itogon		FC	17,158	290	1.70	290	380	70	23	0.39	50	16	0.27	14,506	30	0.20	10	40
La Trinidad		FC	30,931	530	1.70	530	680	120	23	0.39	80	16	0.27	32,616	70	0.20	30	100
Mankayan		FC	10,173	170	1.70	170	220	40	23	0.39	30	16	0.27	9,274	20	0.20	10	30
Tuba		FC	12,214	210	1.70	210	270	50	23	0.39	30	16	0.27	11,450	20	0.20	10	30

 \* 2<sup>nd</sup> to 5<sup>th</sup> class municipalities

 \*\*2<sup>nd</sup> to 5<sup>th</sup> class municipalities with FSW SHC counts

CC-chartered cities

FC-first class municipalities

2015 Size Estimation of Key Affected Populations in the Philippines

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
Other Municipalities*			46,878	800	1.70	800	1,000	180	23	0.39	130	16	0.27	40,100	-	0.00	-	-
<b>IFUGAO</b>			52,420	890	1.70	890	1,600	200	23	0.39	140	16	0.27	47,716	-	0.00	-	-
Other Municipalities*			52,420	890	1.70	890	1,200	200	23	0.39	140	16	0.27	47,716	-	0.00	-	-
<b>KALINGA</b>			53,716	910	1.70	910	1,600	210	23	0.39	150	16	0.27	49,662	70	0.13	30	100
Pinukpuk		FC	7,996	140	1.70	140	180	30	23	0.39	20	16	0.27	6,953	10	0.20	10	20
Tabuk		CC	27,359	470	1.70	470	600	110	23	0.39	70	16	0.27	26,392	50	0.20	30	80
Other Municipalities*			18,361	310	1.70	310	400	70	23	0.39	50	16	0.27	16,317	-	0.00	-	-
<b>MT. PROVINCE</b>			41,168	700	1.70	700	1,200	160	23	0.39	110	16	0.27	37,045	-	0.00	-	-
Other Municipalities*			41,168	700	1.70	700	910	160	23	0.39	110	16	0.27	37,045	-	0.00	-	-
<b>CARAGA</b>			630,012	11,600	1.84	10,700	18,900	2,700	23	0.42	1,800	16	0.29	583,857	640	0.11	290	1,200
<b>AGUSAN DEL NORTE</b>			166,460	3,400	2.02	2,800	5,000	770	23	0.46	500	15	0.30	158,060	220	0.14	60	330
Buenavista		FC	14,523	250	1.70	250	320	60	23	0.39	40	16	0.27	13,380	30	0.20	10	40
Butuan	B	CC	80,801	1,900	2.35	1,000	3,500	440	23	0.54	270	14	0.33	78,981	160	0.20	30	240
Cabadbaran		CC	18,185	310	1.70	310	400	70	23	0.39	50	16	0.27	17,256	30	0.20	20	50
Other Municipalities*			52,951	900	1.70	900	1,200	210	23	0.39	140	16	0.27	48,443	-	0.00	-	-
<b>AGUSAN DEL SUR</b>			172,267	3,300	1.92	2,900	5,200	760	23	0.44	530	16	0.31	154,809	240	0.16	120	360
Bayugan		CC	25,232	430	1.70	430	560	100	23	0.39	70	16	0.27	23,801	50	0.20	20	70
Bunawan		FC	10,659	180	1.70	180	230	40	23	0.39	30	16	0.27	8,819	20	0.20	10	30
Esperanza		FC	13,278	230	1.70	230	290	50	23	0.39	40	16	0.27	11,431	20	0.20	10	30
La Paz		FC	7,157	120	1.70	120	160	30	23	0.39	20	16	0.27	6,443	10	0.20	10	20
Loreto		FC	10,091	170	1.70	170	220	40	23	0.39	30	16	0.27	8,801	20	0.20	10	30
Prosperidad		FC	19,879	340	1.70	340	440	80	23	0.39	50	16	0.27	17,975	40	0.20	20	50
San Francisco		FC	18,958	700	3.70	570	1,200	160	23	0.85	110	16	0.59	17,936	40	0.20	20	50
San Luis		FC	8,187	140	1.70	140	180	30	23	0.39	20	16	0.27	7,448	10	0.20	10	20
Sibagat		FC	7,935	130	1.70	130	170	30	23	0.39	20	16	0.27	7,078	10	0.20	10	20
Trento		FC	12,617	210	1.70	210	280	50	23	0.39	30	16	0.27	11,650	20	0.20	10	30
Other Municipalities*			38,274	650	1.70	650	840	150	23	0.39	100	16	0.27	33,427	-	0.00	-	-
<b>DINAGAT</b>			32,054	540	1.70	540	960	130	23	0.39	90	16	0.27	30,456	-	0.00	-	-
Other Municipalities*			32,054	540	1.70	540	710	130	23	0.39	90	16	0.27	30,456	-	0.00	-	-
<b>SURIGAO DEL NORTE</b>			114,910	2,000	1.70	2,000	3,400	450	23	0.39	310	16	0.27	108,134	90	0.08	60	370
Surigao		CC	36,964	630	1.70	630	810	140	23	0.39	100	16	0.27	36,581	90	0.24	60	370
Other Municipalities*			77,946	1,300	1.70	1,300	1,700	300	23	0.39	210	16	0.27	71,553	-	0.00	-	-
<b>SURIGAO DEL SUR</b>			144,321	2,500	1.70	2,500	4,300	560	23	0.39	390	16	0.27	132,398	90	0.07	50	140
Bislig		CC	25,416	430	1.70	430	560	100	23	0.39	70	16	0.27	23,798	50	0.20	20	70
San Miguel		FC	9,411	160	1.70	160	210	40	23	0.39	30	16	0.27	8,378	20	0.20	10	30
Tandag		CC	13,416	230	1.70	230	300	50	23	0.39	40	16	0.27	13,201	30	0.20	10	40
Other Municipalities*			96,078	1,600	1.70	1,600	2,100	380	23	0.39	260	16	0.27	87,021	-	0.00	-	-
<b>NEGROS ISLAND</b>			1,098,978	19,200	1.74	18,700	33,000	4,300	23	0.39	3,200	17	0.29	1,023,488	2,000	0.20	1,100	3,200
<b>NEGROS OCCIDENTAL</b>			767,492	13,500	1.76	13,000	23,000	3,000	22	0.39	2,300	17	0.30	713,812	1,600	0.23	950	2,600
Bacolod	A	CC	136,615	2,800	2.05	2,400	3,300	560	20	0.41	590	21	0.43	139,882	720	0.52	490	1,200
Bago		CC	44,459	760	1.70	760	980	170	23	0.39	120	16	0.27	39,777	80	0.20	40	120
Binalbagan		FC	17,228	290	1.70	290	380	70	23	0.39	50	16	0.27	16,228	30	0.20	20	50
Cadiz		CC	39,651	670	1.70	670	870	160	23	0.39	110	16	0.27	35,733	70	0.20	40	110
Calatrava		FC	20,045	340	1.70	340	440	80	23	0.39	50	16	0.27	17,863	40	0.20	20	50
Cauayan		FC	24,962	420	1.70	420	550	100	23	0.39	70	16	0.27	22,604	50	0.20	20	70
Escalante		CC	24,179	410	1.70	410	530	90	23	0.39	70	16	0.27	22,232	40	0.20	20	70
Himamaylan		CC	26,931	460	1.70	460	590	110	23	0.39	70	16	0.27	24,064	50	0.20	20	70
Hinigan		FC	22,562	380	1.70	380	500	90	23	0.39	60	16	0.27	20,669	40	0.20	20	60
Hinobaan		FC	13,764	230	1.70	230	300	50	23	0.39	40	16	0.27	12,559	30	0.20	10	40
Kabankalan		CC	43,894	750	1.70	750	970	170	23	0.39	120	16	0.27	39,421	80	0.20	40	120
La Carlota		CC	17,393	300	1.70	300	380	70	23	0.39	50	16	0.27	16,184	30	0.20	20	50

\* 2<sup>nd</sup> to 5<sup>th</sup> class municipalities

\*\*2<sup>nd</sup> to 5<sup>th</sup> class municipalities with FSW SHC counts

CC-chartered cities

FC-first class municipalities

2015 Size Estimation of Key Affected Populations in the Philippines

Province/City	PAHI Cat	Class	Male Population (15-49)	Males Who Have Sex With Males				Transgender Women			Male Transactional Sex Workers			Female Population (15-49)	Female Sex Workers			
				Best Est.	%	Low Est.	High Est.	Best Est.	% from MSM	%	Best Est.	% from MSM	%		Best Est.	%	Low Est.	High Est.
La Castellana		FC	18,433	310	1.70	310	410	70	23	0.39	50	16	0.27	15,996	30	0.20	20	50
Murcia		FC	19,931	340	1.70	340	440	80	23	0.39	50	16	0.27	17,838	40	0.20	20	50
Sagay		CC	36,437	620	1.70	620	800	140	23	0.39	100	16	0.27	33,319	70	0.20	30	100
San Carlos		CC	33,078	560	1.70	560	730	130	23	0.39	90	16	0.27	30,418	60	0.20	30	90
Silay		CC	32,262	550	1.70	550	710	130	23	0.39	90	16	0.27	30,605	60	0.20	30	90
Sipalay		CC	16,569	280	1.70	280	360	60	23	0.39	50	16	0.27	15,129	30	0.20	20	50
Talisay		CC	25,846	440	1.70	440	570	100	23	0.39	70	16	0.27	25,125	50	0.20	30	80
Victorias		CC	23,487	400	1.70	400	520	90	23	0.39	60	16	0.27	21,886	40	0.20	20	70
Other Municipalities*			129,766	2,200	1.70	2,200	2,900	510	23	0.39	350	16	0.27	116,280	-	0.00	-	-
<b>NEGROS ORIENTAL</b>			<b>331,486</b>	<b>5,600</b>	<b>1.70</b>	<b>5,600</b>	<b>9,900</b>	<b>1,300</b>	<b>23</b>	<b>0.39</b>	<b>900</b>	<b>16</b>	<b>0.27</b>	<b>309,676</b>	<b>380</b>	<b>0.12</b>	<b>190</b>	<b>570</b>
Bais		CC	19,612	330	1.70	330	430	80	23	0.39	50	16	0.27	17,747	40	0.20	20	50
Bayawan		CC	29,238	500	1.70	500	640	110	23	0.39	80	16	0.27	26,440	50	0.20	30	80
Canlaon		CC	13,590	230	1.70	230	300	50	23	0.39	40	16	0.27	11,987	20	0.20	10	40
Dumaguete		CC	31,979	540	1.70	540	700	130	23	0.39	90	16	0.27	34,954	70	0.20	30	100
Guihulngan		CC	23,089	390	1.70	390	510	90	23	0.39	60	16	0.27	21,231	40	0.20	20	60
Mabinay		FC	19,496	330	1.70	330	430	80	23	0.39	50	16	0.27	17,696	40	0.20	20	50
Siaton		FC	18,636	320	1.70	320	410	70	23	0.39	50	16	0.27	16,244	30	0.20	20	50
Sta. Catalina		FC	18,259	310	1.70	310	400	70	23	0.39	50	16	0.27	16,465	30	0.20	20	50
Tanjay		CC	20,455	350	1.70	350	450	80	23	0.39	60	16	0.27	18,864	40	0.20	20	60
Valencia			8,542	150	1.70	150	190	30	23	0.39	20	16	0.27	8,022	20	0.20	10	20
Other Municipalities*			128,590	2,200	1.70	2,200	2,800	500	23	0.39	350	16	0.27	120,026	-	0.00	-	-
<b>NCR</b>			<b>3,289,253</b>	<b>112,400</b>	<b>3.42</b>	<b>69,700</b>	<b>158,600</b>	<b>26,300</b>	<b>23</b>	<b>0.80</b>	<b>18,900</b>	<b>17</b>	<b>0.58</b>	<b>3,482,975</b>	<b>15,600</b>	<b>0.45</b>	<b>10,300</b>	<b>20,900</b>
<b>METRO MANILA</b>			<b>3,289,253</b>	<b>112,400</b>	<b>3.42</b>	<b>69,700</b>	<b>158,600</b>	<b>26,300</b>	<b>23</b>	<b>0.80</b>	<b>18,900</b>	<b>17</b>	<b>0.58</b>	<b>3,482,975</b>	<b>15,600</b>	<b>0.45</b>	<b>10,300</b>	<b>20,900</b>
Caloocan	A	CC	410,722	10,800	2.63	7,700	15,700	2,100	19	0.50	2,700	25	0.66	417,665	1,100	0.27	850	1,700
Las Piñas	A	CC	149,011	3,700	2.50	2,500	4,500	1,100	30	0.74	560	15	0.37	163,504	330	0.20	160	490
Makati	A	CC	146,865	3,700	2.50	2,500	4,400	960	26	0.66	930	25	0.63	169,391	4,000	2.39	3,000	6,000
Malabon	A	CC	98,482	2,500	2.50	1,700	3,000	1,200	47	1.19	450	18	0.46	98,433	200	0.20	40	300
Mandaluyong	A	CC	92,462	2,400	2.60	1,800	3,000	770	32	0.83	600	25	0.65	97,018	420	0.43	310	620
Manila	A	CC	460,912	15,500	3.36	10,500	19,500	3,100	20	0.67	2,800	18	0.61	480,522	2,100	0.44	1,600	3,100
Marikina	A	CC	116,795	3,400	2.91	2,800	4,100	680	20	0.58	510	15	0.44	124,017	250	0.20	120	370
Muntinlupa	A	CC	121,075	2,800	2.31	2,100	3,600	280	10	0.23	170	6	0.14	132,096	260	0.20	130	400
Navotas	A	CC	68,689	1,700	2.50	1,200	2,100	610	36	0.89	90	5	0.12	67,134	200	0.30	150	300
Parañaque	A	CC	162,377	4,000	2.46	3,500	4,900	1,200	30	0.74	800	20	0.49	178,642	360	0.20	180	540
Pasay	A	CC	112,506	3,500	3.11	2,400	4,900	700	20	0.62	700	20	0.62	119,008	350	0.30	260	520
Pasig	A	CC	187,038	7,500	4.01	5,000	12,000	1,500	20	0.80	1,500	20	0.80	200,859	400	0.20	140	600
Pateros	A	CC	17,477	440	2.50	300	520	100	23	0.58	70	17	0.43	18,245	40	0.20	20	50
QC	A	CC	766,245	41,300	5.39	19,000	64,000	10,300	25	1.35	6,200	15	0.81	822,261	4,700	0.57	3,100	4,700
San Juan	A	CC	31,775	1,200	3.78	900	2,000	120	10	0.38	120	10	0.38	40,323	110	0.28	80	170
Taguig	A	CC	182,043	4,000	2.20	3,100	5,500	1,200	31	0.68	600	15	0.33	189,246	380	0.20	190	570
Valenzuela	A	CC	164,779	4,000	2.43	2,800	4,900	400	10	0.24	160	4	0.10	164,611	330	0.20	40	490

\* 2<sup>nd</sup> to 5<sup>th</sup> class municipalities

\*\*2<sup>nd</sup> to 5<sup>th</sup> class municipalities with FSW SHC counts

CC-chartered cities

FC-first class municipalities

### Annex 11. City level estimates of male IDU in Cebu Province

The latest data available for city level census of males and females aged 15-49 years from the Philippine Statistics Authority is from the year 2010. Population percentages of KAP may be applied to a more recent census once available.

City	Male Population (15-49)	Male Injecting Drug Users					
		Best Est.	%	Low Est.	%	High Est.	%
<b>NATIONAL</b>	<b>24,435,734</b>			<b>10,000</b>	<b>0.04</b>	<b>21,700</b>	<b>0.09</b>
<b>REGION VII</b>	<b>1,446,473</b>			4,600	0.32	11,000	0.76
Cebu	238,748	4300	1.80	2,200	0.92	6,200	2.60
Danao	31,589	100	0.33	100	0.33	100	0.33
Lapu-Lapu	96,323	320	0.33	320	0.33	320	0.33
Mandaue	95,341	1800	1.89	1,500	1.57	3,700	3.88
Naga	26,971	90	0.33	90	0.33	90	0.33
Talisay	54,133	180	0.33	180	0.33	180	0.33