



NARRATIVE REPORT

ON THE RESULTS OF POINT ESTIMATE OF THE TRANSGENDER AND NON-BINARY POPULATION SIZE



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TABLE OF CONTENTS

ABBREVIATIONS.....	4
PREREQUISITES FOR CALCULATING THE ESTIMATED POPULATION SIZE.....	5
POINT ESTIMATES OF THE POPULATION.....	7
VALIDATION AND CONFIDENCE INTERVALS.....	10
DATA TRIANGULATION.....	13

ABBREVIATIONS

CF	Charitable foundation
CSO	Civil society organization
HIV	Human immune deficiency virus
ICD	International Statistical Classification of Diseases and Related Health Problems
NGO	Non-Governmental Organization
NHSU	National Health Service of Ukraine
SE	State enterprise

PREREQUISITES FOR CALCULATING THE ESTIMATED POPULATION SIZE

Based on the results of the latest round of a biobehavioral survey (hereinafter referred to as the IBBS) conducted among one of the key population groups, an estimation of the size of the surveyed population is typically carried out. This report describes the results of obtaining point estimates of the population size for transgender and nonbinary people in the list of cities where the second round of the biobehavioral survey (2024) was implemented for the specified study population.

The IBBS among transgender and nonbinary people conducted in 2024 used convenience sampling and snowball sampling methods. This study design does not allow the results to be considered representative for the entire population of transgender and nonbinary people; therefore, the **population size estimates presented in this descriptive report cannot be regarded as valid or reliable.**

To estimate the size of the transgender and nonbinary population, the multiplier method was used, drawing on datasets from multiple statistical sources. This method involves comparing information about the same population obtained from two independent sources. Specifically, the service multiplier method combines official statistics on the number of transgender and nonbinary individuals who accessed specific services (including HIV prevention services) with data from survey questionnaires in which study participants reported their engagement with particular services.

A point estimate of population size is an estimate calculated for a specific city in which the current round of the IBBS was conducted and for which statistical data on service use by the study population over a defined period of time were collected.

To calculate the point estimate, the following formula is applied:

$$O_1 = \frac{M}{P}$$

where:

O_1 – estimated number of TB/NB people;

M – qualitative indicator of the TG/NB population registered with a defined data source;

P – share of TG/NB population confirming their registration in the defined data source to the IBBS;

S – TG/NB sample population for IBBS.

To calculate variance, (Var) the following formula is applied:

$$Var(O_1) = \frac{(M * S * (M - P) * (S - P))}{P^3}$$

95% confidence interval is calculated based on the formula:

$$95\% CI: O_1 \pm 1.96 * \sqrt{Var(O_1)}$$

For the purpose of calculating point estimates of population size, data requests were sent to various institutions, including the Main Service Center of the Ministry of Internal Affairs of Ukraine, the Ministry of Justice, the State Migration Service, the International Charitable Foundation “Alliance for Public Health,” the National Health Service of Ukraine’s State Enterprise “eHealth,” ten civil society organizations providing social, psychological, and HIV prevention services to transgender and nonbinary people, and the administration of the Hornet dating application. Data were received partially (see Table 1 below).

Table 1. List of requests sent to agencies /organizations /institutions to share statistics to be used to estimate the population size of transgender and non-binary people

Information requests sent to:	Information requested on:	Result
Main service center of the Ministry of Internal Affairs of Ukraine	The number of persons who exchanged their driver's license due to gender reassignment	No statistics is recorded
The ministry of Justice of Ukraine Department of legal acts registration and systematization	The number of people who exchanged the passport of a citizen of Ukraine due to gender reassignment	The request is beyond the agency's competence
State migration service of Ukraine	The number of people who exchanged the passport of a citizen of Ukraine due to gender reassignment	No statistics is recorded
International Charitable Foundation "Public Health Alliance"	Number of unique clients by survey subpopulations (transgender women, transgender men, non-binary persons) and their engagement in services by city	The data received
PE "E-Health" (NHSU)	Number of unique patients with primary diagnosis and numbers of unique patients with comorbidities coded F64.1—F64.9 according to ICD-10	The data received
Civil society organizations (NGO "Insight", HPLGBT (NGO "Health and protection of lesbian, gay, bisexual and transgender people"), NGO "TransGeneration", NGO "Cohort", NGO "Alliance.Global", All-Ukrainian Charitable Foundaton "Convictus Ukraine", CF "Avante", NGO "LGBT Association 'League'", SCO "Partner", NGO "Projector")	The number of unique clients by survey subpopulations (transgender women, transgender men, non-binary persons) who used the services in the defined period of time	The data received in part
Dating application "Hornet"	Numbers of unique Hornet platform users in the defined period of time who identified their gender	The data is not collected by the mobile application

POINT ESTIMATES OF THE POPULATION

The survey participants were asked about their use of a specific set of prevention services during the year preceding the survey. These data were analyzed in conjunction with statistical indicators from the SyrEx system, which tracks service recipients. In addition, participants were asked about services received from various civil society organizations. This dataset was analyzed together with data on the number of unique clients obtained from CSOs providing social and prevention services to the study population. The International Charitable Foundation “Alliance for Public Health” also provided data on the total number of individuals receiving prevention services from any CSO delivering social and prevention services to transgender and nonbinary people. This dataset was used for calculations together with the number of survey participants’ responses to questions about receiving the services from civil society organizations.

After the data were obtained from various official sources, point estimates were calculated for each subpopulation (transgender men, transgender women, and nonbinary people) by city. Below are the point estimate calculations derived using the multiplier method based on different data sources and statistical indicators. Calculations that fell below the lower validation threshold are marked in red, while those that exceeded the upper threshold are marked in green. Further details on the validation process for these calculations are provided in the following section.

Point estimate calculations in the subpopulation of transgender women (further – TGW) in the cities where IBBS was conducted

Kyiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	351
	Tested for HBV and HCV	228
	Tested for syphilis	111
	Received free condoms	515
	Received free lubricants	491
	NGO “Convictus Ukraine”	3688
	A client of any organization	3248

Dnipro	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	5632
	Tested for HBV and HCV	6798
	Tested for syphilis	3138
	Received free condoms	6241
	Received free lubricants	6235
	Received substitution hormonal therapy	1380
	Received humanitarian aid	116
	A client of any organization	964

Lviv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	284
	Received free condoms	473
	Received free lubricants	459
	Tested for HBV and HCV	119
	Tested for syphilis	49
	Received humanitarian aid	27
	CF “Avante”	456
	A client of any organization	361

Odesa	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	1841
	Tested for HBV and HCV	2239
	Tested for syphilis	726
	Received free condoms	2034
	Received free lubricants	1236
	Received substitution hormonal therapy	51
	Received humanitarian aid	11
	SCO "LGBT Association 'The League'"	260
A client of any organization	2930	

Kharkiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	155
	Tested for HBV and HCV	95
	Tested for syphilis	53
	Received free condoms	190
	Received free lubricants	182
	Received substitution hormonal therapy	95
CF «Blaho»	289	

Point estimate calculations in the subpopulation of transgender men (further – TGM) in the cities where IBBS was conducted

Kyiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	167
	Tested for HBV and HCV	25
	Tested for syphilis	12
	Received free condoms	287
	Received free lubricants	327
	NGO "Convictus Ukraine"	1407
Clients of any organization	1166	

Dnipro	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	2175
	Tested for HBV and HCV	2980
	Tested for syphilis	1378
	Received free condoms	2414
	Received free lubricants	2407
A client of any organization	469	

Lviv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Received free condoms	235
	Received free lubricants	219
	Tested for HIV	158
	Tested for HBV and HCV	93
	Tested for syphilis	45
	CF “Avante”	180
	A client of any organization	222

Odesa	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	399
	Tested for HBV and HCV	757
	Tested for syphilis	359
	Received free condoms	656
	Received free lubricants	1577
	Received substitution hormonal therapy	68
	Received humanitarian aid	8
	SCO “LGBT Association ‘The League’”	84
	Clients of any organization	884

Kharkiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	17
	Received free condoms	31
	Received free lubricants	27
CF «Blaho»	102	

Point estimate calculations in the subpopulation of non-binary persons (further – NB) in the cities where IBBS was conducted

Point estimates for non-binary population in Dnipro are not available, as none of the survey participants from the non-binary population group declared using prevention services in this city.

Kyiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	169
	Tested for HBV and HCV	55
	Tested for syphilis	32
	Received free condoms	194
	Received free lubricants	196
	NGO “Convictus Ukraine”	6754
A client of any organization	4699	

Lviv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	278
	Received free condoms	317
	Received free lubricants	314
	Tested for HBV and HCV	172
	Tested for syphilis	56
	CF "Avante"	508
	A client of any organization	369

Odesa	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	2038
	Tested for HBV and HCV	1134
	Received free condoms	2517
	Received free lubricants	1113
	Tested for syphilis	213
	Received humanitarian aid	14
	SCO "LGBT Association 'The League'"	18
	A client of any organization	667

Kharkiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate
	Tested for HIV	289
	Tested for HBV and HCV	259
	Tested for syphilis	119
	A client of any organization	1519

Point estimate calculations in TGW and TGM according to NHSU data

Point estimates were calculated based on the number of diagnoses established in 2023 and 2024. These data were compared with respondents' answers to the question about whether they had one of the diagnoses (F60.0—F60.9). The NHSU were not broken down by gender identity, therefore, the estimates were calculated for overall transgender population.

None of the IBBS participants in Kharkiv mentioned that any of the relevant diagnosis were established in 2023, 2024, therefore no estimates for this city were calculated.

City	Diagnoses 2023	Diagnoses 2024
Kyiv	735	1697
Dnipro	196	421
Odesa	246	900
Lviv	117	591

VALIDATION AND CONFIDENCE INTERVALS

After point estimates for individual cities were calculated, the results were validated. In the process of validation, the survey team ensured that the estimates fall within the predetermined range. The validity thresholds were set based on the assumption that the number of transgender people in the country reaches 0.1% to 1% of the total population. The lower threshold was set at the level of 0.1% of the total population. The upper threshold was set at the level of 1% of

the total population of Ukraine. Due to the full-scale invasion the statistics on the current population of Ukraine is unavailable, therefore, the data of the State Statistics Committee as of January 1, 2021, were used for the estimates, in particular, the estimated number of male and female population in the cities of the survey.

Some estimates did not pass the validation as the results fell beyond this interval (these estimates are marked in red in the tables of the previous section).

The estimated number of transgender women in Dnipro was the only estimate that exceeded the upper validation threshold. However, these estimates were included in the further calculation, as it is likely that Dnipro hosts a many internally displaced persons, therefore the real size of the city population must be larger than before the full-scale invasion.

For point population size estimates that passed validation, 95% confidence intervals were calculated. Estimates whose lower confidence interval crossed zero were also considered not to have passed validation. **Only those estimates that passed validation and for which confidence intervals were calculated are presented in the tables below.**

Point estimate calculations for TGW subpopulation after validation

None of the point estimates for TGW subpopulation in Kharkiv have passed the validation, therefore the data for Kharkiv are not included in the tables below.

Kyiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	NGO "Convictus Ukraine"	3688	2733	4644
A client of any organization	3248	2535	3961	

Dnipro	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	Tested for syphilis	3138	1385	4891
	Received substitution hormonal therapy	1380	248	2512
	A client of any organization	964	516	1412

Lviv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	Tested for HIV	284	183	384
	Received free condoms	473	282	665
	Received free lubricants	459	274	644

Odesa	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	Tested for HIV	1841	1257	2424
	Tested for HBV, HCV	2239	1445	3032
	Tested for syphilis	726	476	976
	Received free condoms	2034	1388	2680
	Received free lubricants	1236	847	1625
	A client of any organization	2930	2281	3579

Point estimate calculations for TGM subpopulation after validation

Similarly to the point estimates for the TGW subpopulation, none of the point estimates for TGM subpopulation in Kharkiv have passed the validation, therefore the data for Kharkiv are not included in the tables below.

Kyiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	NGO "Convictus Ukraine"	1407	601	2212
	A client of any organization	1166	699	1633

Dnipro	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	Tested for HIV	2175	209	4141
	Tested for HBV, HCV	2980	282	5678
	Tested for syphilis	1378	137	2618
	Received free condoms	2414	231	4598
	Received free lubricants	2407	230	4584
	A client of any organization	469	145	792

Lviv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	Received free condoms	235	146	324
	Received free lubricants	219	137	302
	A client of any organization	222	151	293

Odesa	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	Tested for HIV	399	241	557
	Tested for HBV, HCV	757	432	1082
	Tested for syphilis	359	190	529
	Received free condoms	656	339	974
	Received free lubricants	1577	133	3021
	A client of any organization	884	662	1107

Point estimate calculations for NB subpopulation after validation

One of the estimates for NB subpopulation in Kharkiv have passed the validation and was included in the tables below.

Kyiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	NGO "Convictus Ukraine"	6754	4096	9412
	A client of any organization	4699	3001	6396

Lviv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	Tested for HIV	278	127	430
	Received free condoms	317	158	476
	Received free lubricants	314	156	471
	CF "Avante"	508	163	854
	A client of any organization	369	217	522

Odesa	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	Tested for HIV	2038	1160	2916
	Tested for HBV, HCV	1134	619	1649
	Received free condoms	2517	1363	3671
	Received free lubricants	1113	607	1619
	A client of any organization	667	469	864

Kharkiv	Estimate based on: the number of unique clients / respondents who used the services or identified themselves as NGO clients	Point estimate	CI lower threshold	CI upper threshold
	A client of any organization	1519	605	2432

DATA TRIANGULATION

After validation and calculation of confidence intervals, the Triangulator tool was applied. To derive the final population size estimates, a triangulation procedure was applied, which allows approximation of the true value of the indicator by comparing results obtained from several independent sources. In practice, triangulation was carried out using the Triangulator tool available on the epiapps.com platform. Below are the results of the triangulated point population size estimates by city and study subgroups, obtained using the Triangulator tool.

Triangulated point estimates for transgender women subpopulation				
City	Median (point estimate)	St.dev	Lower CI	Upper CI
Kyiv	3427	300.77	2892	4064
Dnipro	3570	1222.36	1924	6606
Lviv	387	34.65	325	460
Odesa	1699	384.93	1123	2586
Kharkiv	-	-	-	-

Triangulated point estimates for transgender men subpopulation				
City	Median (point estimate)	St.dev	Lower CI	Upper CI
Kyiv	1229	232.87	861	1777
Dnipro	1225	351.24	716	2089
Lviv	225	24.59	183	277
Odesa	653	83.47	479	818
Kharkiv	-	-	-	-

Triangulated point estimates for non-binary people subpopulation				
City	Median (point estimate)	St.dev	Lower CI	Upper CI
Kyiv	5495	816.64	4148	7306
Dnipro	-	-	-	-
Lviv	339	43.95	263	437
Odesa	1286	358.1	820	2153
Kharkiv	1524	6201595.7	691	3501