



District-Level HIV Estimates and Prioritization in India 2019

Technical Brief



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District-Level HIV Estimates and Prioritization in India 2019

Technical Brief



**National AIDS Control Organisation
&
Indian Council of Medical Research – National Institute of Medical Statistics (ICMR-NIMS)
Ministry of Health & Family Welfare, Government of India**



सत्यमेव जयते

आलोक सक्सेना
अपर सचिव एवं महानिदेशक

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Foreword

Epidemiology is 'The Navigator' improving the directions and results of any public health response. Defined as 'the study of the distribution and determinants of the health-related states or events in specified populations and the application of this study to control health problems', the significance of the epidemiological approach has been much highlighted during the ongoing pandemic, where evidence-led tailored interventions for specific locations and populations have been critical.

Global AIDS response has been a pioneer in applied epidemiology in India. National AIDS Control Programme (NACP) has been anchored by robust epidemiological evidence since its inception in 1992. Rooted in sound epidemiological sciences, the measures of prevalence, incidence and mortality are critical indicators monitored at national and sub-national levels in AIDS response. The indicators not only tell the tale of the HIV epidemic but also inform the public health response towards the attainment of the global goal of ending AIDS as a public health threat by 2030. Given the context, the need for having these epidemiological indices at district-level has been emphasized at various forums to inform location and population prioritization for effective and efficient AIDS response.

District-level HIV burden estimations (2019) project under the NACP is a global first. Using the standard Spectrum model-based sub-epidemic disaggregation method, the project has provided critical epidemiological evidence for 735 districts of the country. The method and findings for the exercise were approved by Technical Resource Group (Surveillance and Estimation) under NACP.

District-level HIV estimates (2019) have quantified a truly diverse HIV epidemic in India. There are 25 districts with adult HIV prevalence of 1% or more: all in the north-eastern States of the country. There are 122 districts with estimated 5,000 or more people living with HIV/AIDS: only three in the north-eastern States. The knowledge of this heterogeneity is a critical piece of evidence for programme management and monitoring.

This brief report presents district-level HIV burden estimates highlighting the intra-state epidemic diversity for 35 States/UTs of India. I am confident that all stakeholders will use the granular evidence presented in this report towards location and population, augmenting evidence-driven decentralized AIDS response under NACP.


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अपनी एचआईवी अवस्था जानें, निकटतम सरकारी अस्पताल में मुफ्त सलाह व जाँच पाएँ
Know your HIV status, go to the nearest Government Hospital for free Voluntary Counselling and Testing



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Preface

India is committed to ending the AIDS epidemic by 2030 as part of the Sustainable Development Goals. HIV burden estimations have been critical to know the status of the epidemic, plan the responses as well as to measure the progress towards the attainment of the 2030 goals. Till 2017, National AIDS Control Programme (NACP) has produced the estimates by States/UTs. Now, HIV estimates are being provided for 735 districts of the country.

Focus on location and population is fundamental to an efficient AIDS response. HIV Estimates 2019 report provides vital epidemiological evidence to the programme managers at all levels for prioritization of locations for bottom-up AIDS response. The report identifies 144 districts where either the adult HIV prevalence is $\geq 1\%$ or the size of people living with HIV (PLHIV) is ≥ 5000 . Together, these 144 districts are estimated to have 63% of PLHIV, 49% of new infections and 55% of PMTCT need in 2019. This is a critical piece of evidence for planning, consolidating and expanding services across the prevention–detection–treatment continuum putting people at the centre, and the prioritization of locations where investments in AIDS response can do more people more good.

The report is an outcome of extensive exercise undertaken through robust institutional arrangements for Surveillance and Epidemiology (S&E) under NACP including national and regional for S&E, State AIDS Control Society and Technical Support Units. The method and findings were recommended by the Technical Resource Group (TRG) on Surveillance & Estimation.

The national AIDS response is on track to achieve the end of the AIDS epidemic. However, we need to focus on people accessing the right services delivered in the right place. I am confident that this report will be used by all stakeholders to design and implement comprehensive, high-impact programmes in the right locations for the right population.

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The Indian Council of Medical Research-National Institute of Medical Statistics (ICMR-NIMS) is the apex technical body for HIV estimations in India under the aegis of the National AIDS Control Organisation (NACO), Ministry of Health and Family Welfare. ICMR-NIMS and NACO and the members of the National Working Group on HIV Estimations (NWG) have, for the first time, developed district-level HIV estimates for 735 districts of the entire country under the 2019 estimations round.

This work was undertaken in response to the need felt under the National AIDS Control Programme (NACP) to have more granular strategic information on key indicators available to inform district-level programming and prioritization. Through this process, estimates on adult HIV prevalence, number of people living with HIV, annual new HIV infections, annual AIDS-related deaths, and need for services for prevention of mother-to-child transmission of HIV at the district level are now available to serve this purpose.

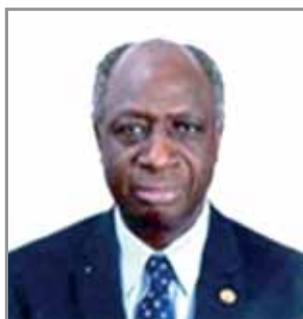
ICMR-NIMS and NACO led this scientific work with members of the NWG, comprising experts from ICMR Regional Institutes (RI), State AIDS Control Societies (SACS) and independent advisors. UNAIDS provided technical support to the entire exercise along with WHO and CDC. Oversight was provided by the Technical Resource Group on HIV Surveillance and Estimations (TRG).

The 2019 district-level HIV estimations have been implemented with a firm focus on ensuring the quality of data inputs, as well as methodological and scientific integrity. The entire work on district estimates spanned around 10 months' time. A considerable amount of effort was dedicated by the NWG in analysing, reviewing and finalizing all the data sets, which would be used for this modelling exercise. Once the data sets were consolidated and finalized, these were used to update the 2019 State/Union Territory (UT) Spectrum files following the 'Spectrum disaggregated method'. Broadly, the key steps adhered to were as follows. The starting point for the district estimations work was referring to the 2019 State/UT files. For methodological consistency, the same version of Spectrum used for 2019 national and State/UT estimates (i.e., version 5.8) was used to update these files for the district estimates. The epidemic configuration was updated to include sub-epidemics for each district and sub-populations within the district. The demographic data was inputted and thereafter the HIV Sentinel Surveillance data and ANC positivity data for each district and population group was inputted. Curve fitting was done using the 'EPP Classic model.' To calibrate the general population prevalence curve considering the National Family Health Survey data, the district HIV estimates generated through Spectrum were adjusted using spreadsheets to equal the State/UT 2019 HIV estimates. The NWG with RI and SACS used a validation to compare outcomes of estimations with realities on the ground, based on a local understanding of the epidemic and programme data available, and the results of this validation were very much concordant for each of the 735 districts.

It is very important to mention that the 2019 district-level HIV estimates corroborate very well with the uneven spread and diversity of the HIV/AIDS epidemic in India. Key findings are presented in-depth in this document. I am sure that the 2019 district HIV estimates on key indicators will be very useful to further enhance the National AIDS Response by helping India to focus on high-burden districts and move towards achieving the last mile and ending AIDS as a public health threat by 2030. I congratulate the entire NWG members and ICMR-NIMS team, Dr. Damodar Sahu, PI & Focal Person of HIV Estimations, Dr. Anil Kumar, Scientist F, Dr. Saritha Nair, Scientist E, Dr. Jiten Kumar Singh, Scientist D, Dr. Varsha Ranjan, Research Officer, Ms. Supreet Kaur, Data Programmer and Ms. Smita Singh, SRF, who were involved in the 2019 district estimates exercise, for bringing out this vital information.

Dr. Vishnu Vardhana Rao
Director, ICMR-NIMS

Chair, National Working Group on HIV Estimations



Message

In its first time ever, HIV estimates on key indicators were generated for 735 districts of India – under the 2019 estimations round: using sound globally recommended tools, methods and quality data inputs with adherence to scientific rigour and integrity. With this success, India now has HIV estimates for all three administrative levels: National, State and District. The current district-level HIV estimations mark a natural evolution of the robust strategic information structure aimed at using the granular district-level data for programming purposes. India continues to pave the way for other countries in many areas and the district HIV estimates are one such good practice worthy of emulation.

Generated under the leadership of the National AIDS Control Organisation, Ministry of Health and Family Welfare (NACO, MoHFW) and the Indian Council of Medical Research-National Institute of Medical Statistics (ICMR-NIMS) along with members of the National Working Group on HIV Estimates comprising of ICMR Regional Institutes (RIs), State AIDS Control Societies (SACS) and experts, the district-level HIV estimates work is a pragmatic participatory process. UNAIDS is pleased to have successfully supported this important national initiative in collaboration with WHO and PEPFAR/CDC.

The district-level HIV estimates provide rich information on the status of the epidemic at the inter-district and intra-district levels. Clearly, data highlights how diverse the epidemic is in terms of district HIV burden – HIV prevalence, number of people living with HIV (PLHIV), annual new HIV infections and PMTCT needs, thus helping decision-makers to focus their actions on where it matters the most. To sum up, for example, there are 299 among the 735 districts in the country (i.e., 40%) that account for 84% of PLHIV, 76% of new HIV infections and 80% of PMTCT needs. Full saturation of these districts with HIV services will yield quick impact on the epidemic and maximum returns on investments.

Congratulations to NACO and ICMR-NIMS for generating the 2019 district-level HIV estimations. I encourage them to use this evidence to guide district prioritization and programming. UNAIDS remains committed to support NACO/MOHFW, ICMR-NIMS, RIs and SACS going forward to achieve the national AIDS programme targets set for 2025 and to end AIDS by 2030.



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Acknowledgement

District-level HIV burden estimations is a critical activity under the National AIDS Control Programme (NACP) to provide granular data on key epidemiological indicators of prevalence, incidence and mortality. The activity was first piloted for five States in 2018–19. Now, the NACP is providing district-level estimates for 735 districts in the country to augment the evidence basket for local-level decentralized epidemic monitoring and responses. It is being done through robust institutional arrangement for Surveillance and Estimation engaging epidemiologists, demographers, biostatisticians as well as State and national programme managers. We acknowledge the contributions made by all experts and stakeholders engaged in the process.

The Technical Resource Group (TRG) for HIV Surveillance and Estimation, first under the chairpersonship of Smt. Arti Ahuja (former Additional Secretary & DG, NACO, MoHFW, Gol) and now under the chairpersonship of Shri Alok Saxena (Additional Secretary & DG, NACO, MoHFW, Gol) and co-chairpersonship of Dr. Sanjay Mehendale (Former Additional Director General, Indian Council of Medical Research, New Delhi) approved the process, method and technical brief for the district-level HIV Estimations 2019. Dr. D. C. S. Reddy, Prof. Arvind Pandey, Dr. Shashi Kant, Dr. Bilali Camara (UNAIDS India), Shri Ashok Row Kavi, Mx. Abhina Aher, Mr. Taoufik Bakkali (UNAIDS Asia-Pacific), Dr. Melissa Nyendak (CDC-DGHT India), Dr. Rajesh Kumar, Dr. D. K. Shukla and Dr. Sanjay Dixit strengthened the exercise with their expertise and provided critical technical guidance as TRG members. The programmatic context for the exercise was provided by Dr. Naresh Goel (DDG, NACO), Dr. Anoop Kumar Puri (DDG, NACO), Dr. Bhawani Singh Kushwaha (DD, NACO), Dr. Saiprasad Bhavsar (DD, NACO) and Dr. Bhawna Rao (DD, NACO). We place on record our sincere thanks for NACO's leadership, senior experts and all stakeholders for providing vision and insights for the successful completion of this activity.

NACO's National Working Group (NWG)-HIV Estimations 2019, under the chairpersonship of Dr. M. Vishnu Vardhana Rao (Director ICMR-NIMS, New Delhi) was instrumental in the planning, organization and execution of the pan-India district-level HIV burden exercise. Dr. Shanta Dutta (ICMR-NICED, Kolkata), Dr. Shri Kant Singh (IIPS India), Dr. Sheela Godbole (ICMR-NARI, Pune), Dr. A. Elangovan (ICMR-NIE, Chennai), Dr. Sanjay Rai (AIIMS, New Delhi), Dr. P. V. M. Lakshmi (PGIMER, Chandigarh), Dr. H. Sanyama Devi (RIMS, Imphal), Ms. Deepika Srivastava Joshi (CDC-DGHT India) and Dr. Rajatshruva Adhikary (WHO India) strengthened the exercise with their expertise and provided critical technical guidance at all stages as NWG members. Strategic Information Management Teams from each of the State AIDS Control Societies (SACs) actively engaged in the process during the data inputs, model implementation and outputs reviews. We most humbly express our gratitude to all experts and stakeholders for their guidance on HIV Estimations 2020.

Dr. Pradeep Kumar (NACO) and Dr. Damodar Sahu (ICMR-NIMS) anchored the implementation of the District-Level HIV Estimates and Prioritization (2019), which included the defining technical and operational framework and preparation of the Technical Brief. Dr. Arvind Kumar (NACO), Dr. Varsha Ranjan (ICMR-NIMS) and Ms. Nalini Chandra (UNAIDS India) supported the models implementation. Dr. Shreya Jha (AIIMS, New Delhi), Dr. Sayali Kalme (ICMR-NARI, Pune), Dr. Santha Kumar Aridoss (ICMR-NIE, Chennai), Dr. Subrata Biswas (ICMR-NICED, Kolkata), Ms. Chandrakanta (PGIMER, Chandigarh) and Dr. Manihar Singh (RIMS, Imphal) actively engaged in the process. UNAIDS India supported the publication of District-Level HIV Estimates and Prioritization (2019) Technical Brief. We acknowledge the contribution of each of them towards the successful completion of District-Level HIV Burden Estimations 2019.

This is the first time that National AIDS Control Organisation (NACO) is publishing pan-India district-level HIV burden estimates. The evidence highlights specific geographics which need to be focussed more to maximize the returns on investments. We are confident that all stakeholders will use the evidence presented in the technical brief extensively to fast-track the national AIDS response towards achieving the 2030 goal of ending AIDS as a public health threat.

Dr. Shobini Rajan

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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
AIIMS	All India Institute of Medical Sciences
AIM	AIDS Impact Module
ANC	Antenatal Care
ARD	AIDS-related Deaths
ART	Antiretroviral Therapy
CDC	Centers for Disease Control and Prevention
DACS	District AIDS Control Society
DNH & DD	Dadra & Nagar Haveli and Daman & Diu
EMTCT	Elimination of Mother-to-Child Transmission
EPP	Estimation and Projection Package
HIV	Human Immunodeficiency Virus
HRG	High-Risk Group
HSS	HIV Sentinel Surveillance
IBBA	Integrated Biological and Behavioural Assessment
IBBS	Integrated Biological and Behavioural Surveillance
ICMR	Indian Council of Medical Research
NACO	National AIDS Control Organisation
NACP	National AIDS Control Programme
NFHS	National Family Health Survey
NIMS	National Institute of Medical Statistics
NWG	National Working Group
PLHIV	People Living with HIV
PMTCT	Prevention of Mother-to-Child Transmission
RI	Regional Institute
SACS	State AIDS Control Society
TRG	Technical Resource Group
TSU	Technical Support Unit
UT	Union Territory
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organization

Executive Summary

National AIDS Control Organisation (NACO), Ministry of Health and Family Welfare (MoHFW), Government of India undertakes HIV burden estimations periodically. The estimates not only provide an update on the latest status of the HIV/AIDS epidemic, but also contribute in evidence-led national AIDS response.

Since 1998, HIV burden estimations under the National AIDS Control Programme (NACP) have been providing critical epidemiological data by State/Union Territory (UT). This is done through a robust institutional structure that includes State AIDS Control Societies, National and Regional Institutes of Surveillance and Epidemiology, independent experts, and multilateral/bilateral partners under the aegis of NACO's Technical Resource Group of HIV Surveillance and Estimation.

In view of the augmented bottom-up decentralized planning, the district-level HIV burden estimation was first piloted for five States in the 2017 round. Based on the pilot, the Spectrum-based sub-epidemic disaggregation method for district-level HIV burden estimation was approved by NACO's Technical Resource Group (Surveillance and Estimation). The District-Level HIV Burden Estimations (2019) was undertaken as per the approved method for 735 districts using the 2019 State/UT model.

District-level HIV Burden Estimates (2019) corroborates the diversity of HIV/AIDS epidemic in India. The adult HIV prevalence in the districts of the country ranges between <0.10% and 4.00%. The number of people living with HIV (PLHIV) in the districts ranges between <100 and 57,000, with around 90% of infections in 360 districts. The annual new HIV infections (among people aged 15+ years) in the districts range between <50 and 2,600, with around 90% of the new infections in 340 districts. The annual prevention of mother-to-child transmission (PMTCT) needs in the districts ranges between <10 and 450, with 90% of the total PMTCT need in 400 districts.

The wide diversity of HIV/AIDS epidemic in the country signifies the need for programme management and monitoring considerations. While the epidemic is extremely diverse, there are some districts that are relatively more affected, in terms of either the prevalence or the PLHIV size, than the rest and thus need to be assigned a differentiated priority level.

There are 299 moderate and high priority districts in the country that comprise 84% of the PLHIV size, 76% of the new infections and 80% of the PMTCT need. Saturating these districts with a spectrum of HIV prevention–testing – treatment–retention services will provide maximum returns on the investments. However, attainment of the 2025 and 2030 prevention–testing–treatment and elimination of mother-to-child transmission (EMTCT) goals under NACP will require suitable coverage of the remaining districts also.

The current district-level HIV burden estimation, the first round providing pan-India estimates, is a natural evolution of the robust strategic information and its uses at the granular level under the programme. The subsequent rounds will further benefit from triangulation, analysis and local intelligence, especially district-level personnel, which will thus provide useful lessons on what worked and what needs improvement.

Background

Biennial HIV estimations, *inter alia*, is fundamental to the evidence-driven AIDS response under the National AIDS Control Programme (NACP) of India. The first round of HIV estimation in India was done in 1998, while the latest round was done in 2019. The 2019 HIV estimates provide the updates on the HIV epidemic on key parameters of HIV prevalence, new infections, AIDS-related mortality and PMTCT needs.

Since its initiation, the biennial HIV estimation exercise has been providing data on the levels and trends of key epidemiological indicators nationally and by State/UT. However, the need for availability of key epidemiological indicators up to the district level for prioritizing the locations for augmented AIDS response in the context of the Sustainable Development Goals (SDGs) of ending the AIDS epidemic as a public health threat by 2030 was recognized. Consequently, the National Strategic Plan 2017–2024 recommended the strengthening of epidemic monitoring at district and sub-district levels.¹ National AIDS Control Organisation (NACO) organized an expert consultation in 2016 to review the current status and provide the roadmap for HIV Surveillance and Epidemiology activities.² The consultation recommended district-level HIV burden estimations as one of the key activities to be included under the spectrum of the epidemiological framework of NACP. Another consultation was undertaken in 2018, which reviewed various methods of district-level HIV burden estimations.³ Following a review of the method and the findings of a pilot project undertaken in five States of India using the 2017 models, NACO's Technical Resource Group (TRG) on HIV Surveillance and Estimation approved the Spectrum model-based district-level HIV burden estimations.⁴

District-level HIV Burden Estimation 2019 provides the latest status of the HIV epidemic on key parameters of HIV prevalence, new infections, AIDS-related mortality and PMTCT needs for 735 districts in India.⁵ Based on key epidemiological parameters, the districts were grouped into priority categories to inform programme planning and resource allocation. The exercise was carried out jointly by NACO and the Indian Council of Medical Research-National Institute of Medical Statistics (ICMR-NIMS) (New Delhi) under the guidance of NACO's National Working Group (HIV Estimations 2019). The members of the working group comprised of experts in demography, epidemiology, statistics, etc. coming from National and Regional Institutes (RIs) for HIV Surveillance and Epidemiology, independent technical experts and State AIDS Control Societies (SACSs) (see Annexures 1 and 2). The results generated were approved after review by the NACO's National Technical Resource Group on HIV Estimation & Surveillance (see Annexure 3). Figure 1 describes the process of district-level HIV burden estimation and prioritization (2019) under NACP.

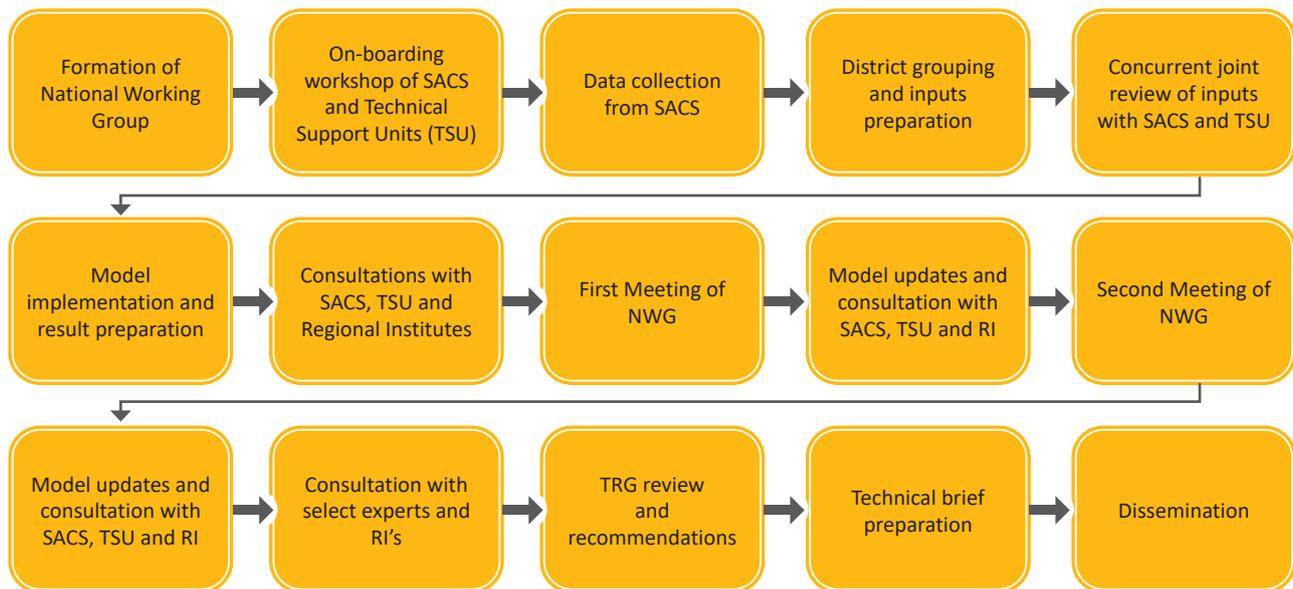
¹ National AIDS Control Organisation. National Strategic Plan for HIV/AIDS and STI, 2017 – 2024. National AIDS Control Organisation, Ministry of Health & Family Welfare, Government of India. 2017.

² National AIDS Control Organisation. Expert Consultation on HIV Surveillance and Estimations in India, 2016. New Delhi: National AIDS Control Organisation, Ministry of Health & Family Welfare, Government of India.

³ National AIDS Control Organisation. Expert Consultation on Newer Methods of HIV Surveillance and Estimations in India, 2018. New Delhi: National AIDS Control Organisation, Ministry of Health & Family Welfare, Government of India.

⁴ National AIDS Control Organisation & Indian Council of Medical Research-National Institute of Medical Statistics (ICMR-NIMS) (2020). District Level HIV Estimates 2017: A Report on Five States in India. New Delhi: NACO, Ministry of Health and Family Welfare, Government of India.

⁵ Union Territory of Lakshadweep not included in district-level HIV burden estimations in view of lack of epidemiological data.

Figure 1: Process of District-level HIV Burden Estimation and Prioritization (2019)

District-level HIV Estimates 2019 has been generated using the same Spectrum tool version as the one used for 2019 national and State/UT reports to maintain consistency. This tool incorporates improvements in comparison with earlier versions, and is informed by the latest available science and understanding of the epidemic – having the most recent data inputs. It replaces the results from previous rounds of district estimations done under the 2017 round pilot phase in the five States. In view of this, for all comparisons, the time trend data as provided through HIV Estimations 2019 at the district level shall only be used until the data from the next round of estimations is made available. This is in accordance with the recommendations of UNAIDS, Geneva, stating that the results from previous years cannot be compared with the results from the current round.⁶

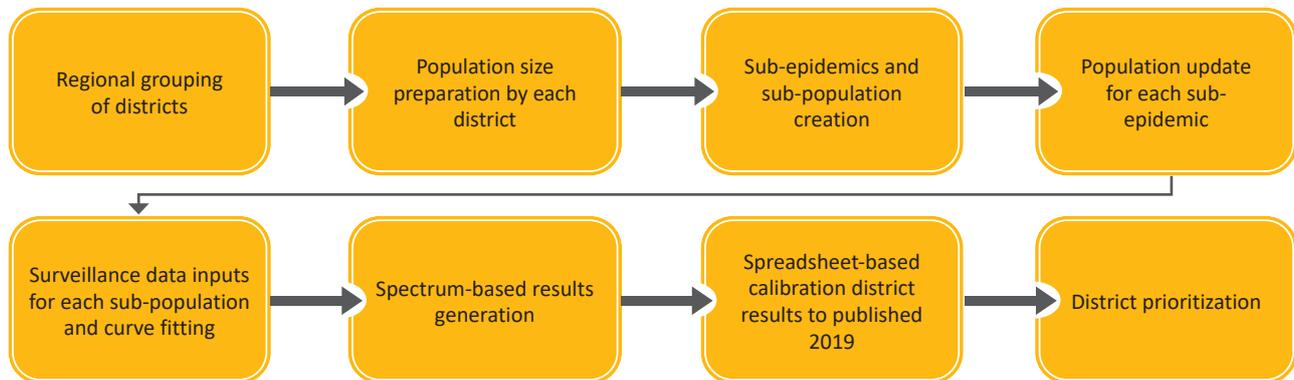
⁶ https://www.unaids.org/en/dataanalysis/knowyourresponse/HIVdata_estimates

Method

HIV estimation under NACP uses the UNAIDS-supported Spectrum tool. For the District-Level HIV Estimation 2019, Spectrum version 5.80 was used adhering to the TRG-approved method. The details providing State/UT-wide estimates are available elsewhere.⁷

The State/UT-wide models prepared under the 2019 round of HIV estimations have been used for the district-level HIV burden estimation (see Figure 2). These models already had inputs on demographics and HIV treatment coverage. Moreover, data on mortality and fertility rates as well as age/sex pattern of HIV incidence were also available in these base models.

Figure 2: Methodological Steps for District-level HIV Burden Estimation and Prioritization



As part of the district-level HIV burden estimation, districts⁸ were first grouped by region based on the established administrative divisions in a spreadsheet, as a preparatory step. For each district, population and epidemiological data for the general population and high-risk group (HRG) population were consolidated based on the data availability. For the districts, where epidemiological data for a sub-population was not available but data on its population size was available, epidemiological data from the neighbouring district(s) were used.

Next, the epidemic configuration in the corresponding State/UT model was updated with each district as sub-epidemic, after which sub-populations of the general population and HRGs were created in each of the sub-epidemics using Spectrum version 5.80. The size of each sub-population in each of the sub-epidemics was inputted. Data from HIV Sentinel Surveillance (HSS) from antenatal clinics and data from routine HIV testing among pregnant women was inputted to inform the epidemic curve for the general population, which was further informed by PLHIV covered under the programme. For HRG, the HIV prevalence data available from HSS, Integrated Biological and Behavioural Surveillance (IBBS) and Integrated Biological and Behavioural Assessment (IBBA) was used to inform the epidemic curve. EPP Classic

⁷ National AIDS Control Organisation & Indian Council of Medical Research-National Institute of Medical Statistics (ICMR-NIMS) (2020). India HIV Estimates 2019: Report. New Delhi: NACO, Ministry of Health and Family Welfare, Government of India.

⁸ List of districts as per Census 2011 and included newly formed up to September 2020

was used for the curve fitting. District-wide estimates extracted from the sub-population summary in the Spectrum results section were used to calculate the relative burden for each district, which was then applied to the approved State/UT HIV Estimation 2019.

In the next step, district-wide epidemiological data on adult HIV prevalence, as well as the size of PLHIV was used to undertake district prioritization. The use of indicators such as adult prevalence and PLHIV size ensured that the contexts of both epidemiological and programmatic needs informed the district prioritization. The criteria used for the district prioritization is mentioned in Table 1.

Table 1: Criteria Used for District Prioritization (2019)

District Priority	Description
High	Adult prevalence of $\geq 1\%$ or PLHIV size of $\geq 5,000$
Moderate	Adult prevalence of $0.4\% \leq 1\%$ or PLHIV size of $2,500 \leq 5,000$
Low	Adult prevalence of $0.20\% \leq 0.40\%$ or PLHIV size of $1,000 \leq 2,500$
Very Low	Adult prevalence of $< 0.20\%$ or PLHIV size of $< 1,000$

Key Results

Key highlights from the district-level HIV estimation and prioritization have been presented in the subsequent sections. State/UT-wide key results have been presented in the factsheets under Annexure 4.

I. Adult HIV Prevalence (15–49 Years)

The adult HIV prevalence in the districts of the country range between <0.10% and 4.00%. Twenty-five districts (around 3% of total districts) in four States/UTs of the country have estimated adult HIV prevalence of 1% or more, while another 102 (14%) have prevalence in the range of 0.40% ≤1.00%. Almost two thirds (463) of the total districts in the country have adult prevalence of less than <0.20%. Out of 463, 56% (259) districts have adult HIV prevalence of less than 0.10% (see Table 2).

Table 2: District Count by Adult HIV Prevalence Category, 2019

Adult HIV Prevalence Category	District Count (N=735)	States/UTs Having Districts in the Given Category
≥1%	25	4
0.40% ≤1.00%	102	16
0.20% ≤0.40%	145	24
<0.20%	463	27

All districts with adult HIV prevalence of 1% or more are in the northeastern States (see Figure 3 and Table 3). This includes nine districts in Manipur, two districts in Meghalaya, eight districts in Mizoram and six districts in Nagaland. Out of the total 102 districts with adult HIV prevalence in the range of 0.40% to <1.00%, 69 districts are in the erstwhile western and southern high prevalence States of Andhra Pradesh (13), Karnataka (20), Maharashtra (10), Tamil Nadu (3) and Telangana (23). There are 16 districts in the northeastern States with adult HIV prevalence in the range of 0.40% to <1.00% – Manipur (7), Meghalaya (1), Mizoram (3) and Nagaland (5).

Figure 3: District-wide Adult HIV Prevalence (%) in India, 2019

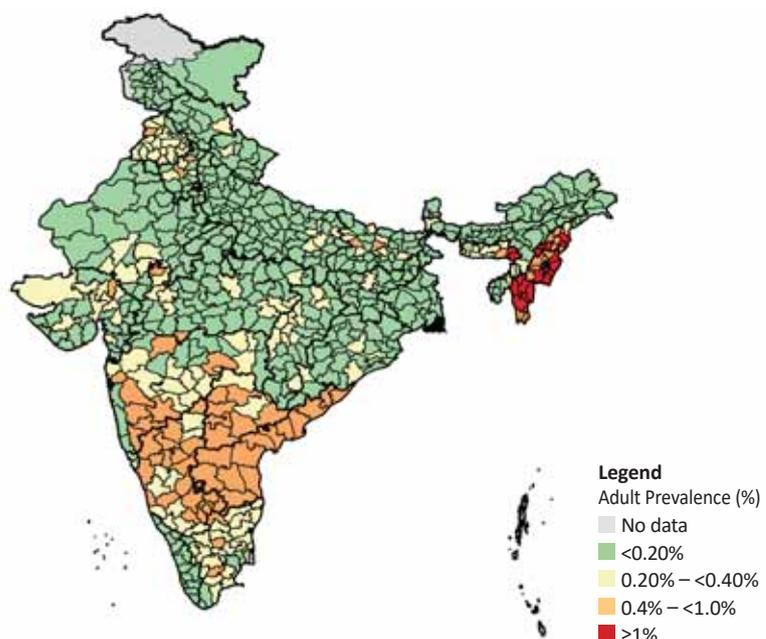


Table 3: State/UT-wide Districts by Adult HIV Prevalence Category (%), 2019

State/UT	Adult HIV prevalence category					Total Districts
	<0.20%		≥0.20% ≤0.40%	≥0.40% ≤1.00%	≥1%	
	<0.10%	≥0.10% ≤0.20%				
Andaman & Nicobar Islands		2	1			3
Andhra Pradesh				13		13
Arunachal Pradesh	21	4				25
Assam	24	6	3			33
Bihar	16	12	8	2		38
Chandigarh		1				1
Chhattisgarh	7	11	10			28
DNH & DD		1	2			3
Delhi		1	2	8		11
Goa			2			2
Gujarat	3	19	10	1		33
Haryana	9	7	4	2		22
Himachal Pradesh	6	5	1			12
Jammu & Kashmir and Ladakh	18	4				22
Jharkhand	18	4	2			24
Karnataka			10	20		30
Kerala	12	2				14
Madhya Pradesh	17	25	8	2		52
Maharashtra		13	13	10		36
Manipur				7	9	16
Meghalaya	2	3	3	1	2	11
Mizoram				3	8	11
Nagaland			1	5	6	12
Odisha	11	15	4			30
Puducherry	1	2		1		4
Punjab		4	17	1		22
Rajasthan	19	10	4			33
Sikkim	4					4
Tamil Nadu	2	8	25	3		38
Telangana			10	23		33
Tripura	5	2	1			8
Uttar Pradesh	44	28	3			75
Uttarakhand	4	9				13
West Bengal	16	6	1			23
Total	259	204	145	102	25	735

II. People Living with HIV (PLHIV)

The PLHIV number in the districts range between <100 and 57,000, with around 90% of infections in 360 districts. One hundred and twenty-two districts (17% of total districts) in 19 States of the country have estimated PLHIV of 5,000 or more, comprising 61% of the total epidemic burden. Among the districts with 5,000 or more PLHIV, 11 districts are estimated to have PLHIV size of 25,000 or more (18% of total PLHIV), while another 37 have PLHIV in the range of $\geq 10,000$ to <25,000 (22% of total PLHIV). Another 139 (19%) districts have PLHIV in the range of 2,500 to <5,000 (21% of total PLHIV). Almost two thirds (474) of the total districts in the country are estimated to have less than 2,500 PLHIV (see Table 4).

Table 4: District Count by PLHIV Number Category, 2019

PLHIV Size	Districts (N=735)	States/UTs Having Districts in the Given Category
$\geq 5,000$	122	19
2,500 \leq 5,000	139	24
1,000 \leq 2,500	191	26
<1,000	283	28

Seventy-seven districts with an estimated PLHIV size of 5,000 or more are in the States of Andhra Pradesh (13), Karnataka (21), Maharashtra (20), Tamil Nadu (11) and Telangana (12). Another 37 districts with PLHIV estimates of 5,000 or more are in the northern and eastern States of Bihar (8), Chhattisgarh (2), Delhi (7), Haryana (2), Odisha (2), Punjab (4), Rajasthan (1), Uttar Pradesh (5) and West Bengal (6). Only three districts in the northeastern States (one each in the States of Manipur, Mizoram and Nagaland), have estimated PLHIV size of 5,000 or more (see Figure 4 and Table 5).

Out of the 11 districts with PLHIV size of 25,000 or more, 6 are in Andhra Pradesh, 2 are in Karnataka while another 3 are in Maharashtra. Seven districts in Andhra Pradesh, 3 in Bihar, 1 in Delhi, 2 in Gujarat, 1 in Haryana, 6 in Karnataka, 10 in Maharashtra, 1 in Mizoram, 2 in Tamil Nadu, 3 in Telangana and 1 in West Bengal have PLHIV in the range of 10,000 to <25,000. Two districts of Mumbai and Mumbai suburban in the State of Maharashtra, collectively managed by Mumbai District AIDS Control Society, are estimated to have around 77,000 PLHIV.

Figure 4: District-wide PLHIV in India, 2019

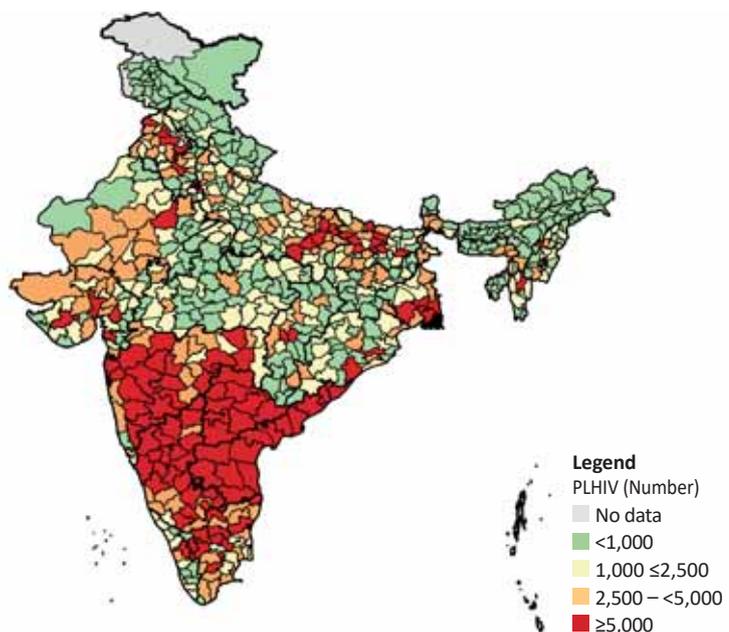


Table 5: State/UT-wide Districts by PLHIV Category (%), 2019

State/UT	PLHIV Size Category						Total Districts
	<1,000	≥1,000 ≤2,500	≥2,500 ≤5,000	≥5,000			
				≥5,000 ≤10,000	≥10,000 ≤25,000	≥25,000	
Andaman & Nicobar Islands	3						3
Andhra Pradesh					7	6	13
Arunachal Pradesh	25						25
Assam	29	1	3				33
Bihar	10	12	8	5	3		38
Chandigarh		1					1
Chhattisgarh	16	5	5	2			28
DNH & DD	3						3
Delhi		2	2	6	1		11
Goa		1	1				2
Gujarat	9	11	9	2	2		33
Haryana	11	5	4	1	1		22
Himachal Pradesh	10	2					12
Jammu & Kashmir and Ladakh	21	1					22
Jharkhand	15	6	3				24
Karnataka		1	8	13	6	2	30
Kerala	4	8	1	1			14
Madhya Pradesh	27	22	3				52
Maharashtra	1	4	11	7	10	3	36
Manipur	5	8	2	1			16
Meghalaya	8		3				11
Mizoram	6	4			1		11
Nagaland	5	5	1	1			12
Odisha	13	11	4	2			30
Puducherry	3		1				4
Punjab	1	10	7	4			22
Rajasthan	10	12	10	1			33
Sikkim	4						4
Tamil Nadu	2	11	14	9	2		38
Telangana		11	10	9	3		33
Tripura	8						8
Uttar Pradesh	21	28	21	5			75
Uttarakhand	9	3	1				13
West Bengal	4	6	7	5	1		23
Total	283	191	139	74	37	11	735

III. Annual New HIV Infections (15+ Years)

The annual new HIV infections (among people aged 15+ years) in the districts range between <50 and 2,600, with around 90% of new infections in 340 districts. Eighty-eight districts have 200 or more new HIV infections in 2019, comprising more than half (54%) of the new infections in the country (see Table 6). Another 85 districts have new HIV infections in the range of ≥ 100 to <200, comprising 18% of the total epidemic. Each of the rest of 562 districts has less than 100 new infections in 2019, comprising around 28% of total new infections.

Among the districts with 200 or more new HIV infections, three have 1,000 or more, while nine have new infections in the range of ≥ 500 to less than <1,000. Together, these 12 districts comprise around one fifth (19%) of total new HIV infections.

Table 6: District Count by Annual New HIV Infections (15+ Years) Category, 2019

New HIV Infections	Districts (N=735)	States/UTs Having Districts in the Given Category
≥ 200	88	22
$100 \leq 200$	85	21
$50 \leq 100$	153	26
<50	409	31

Bihar and Uttar Pradesh have the highest number of districts (10 each) with annual new HIV infections of 200 or more, followed by 9 districts in Maharashtra, 8 in Delhi, 7 each in Andhra Pradesh and West Bengal, 6 in Telangana and 5 in Chhattisgarh. States/UT of Assam, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Meghalaya, Mizoram, Nagaland, Odisha, Puducherry, Punjab, Rajasthan and Tamil Nadu have one–four districts with annual new HIV infections of 200 or more in 2019 (see Figure 5 and Table 7).

Out of three districts with annual new HIV infections of >1,000 or more, two are in Maharashtra and one in Bihar. The State of Bihar has two more districts with new HIV infections in the range of ≥ 500 to <1,000. Delhi (1), Haryana (1), Maharashtra (2), Mizoram (1), Nagaland (1) and Telangana (1) are the other States with districts having new HIV infections in the range of ≥ 500 to <1,000.

Figure 5: District-wide Annual New HIV Infections (15+ Years) in India, 2019

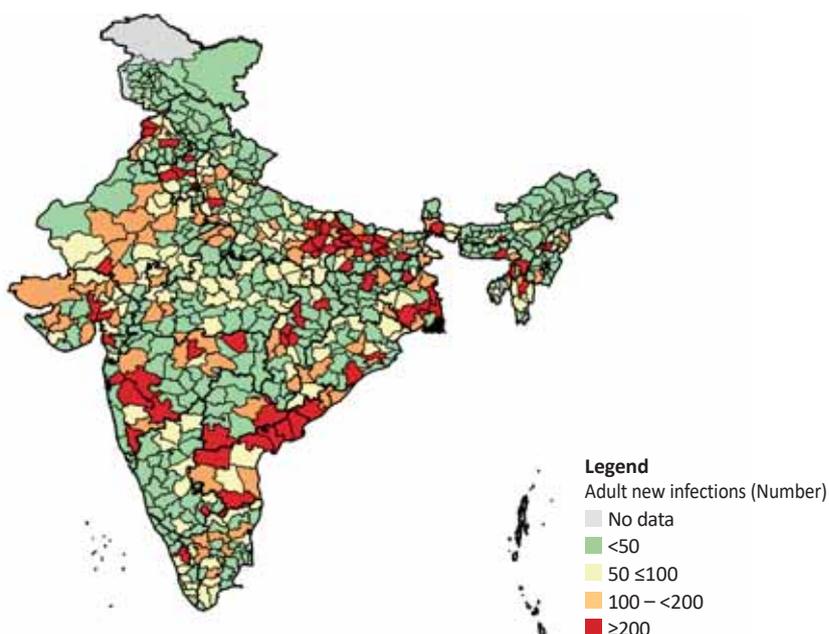


Table 7: State/UT-wide Districts by Annual New HIV Infections (15+ Years), 2019

State/UTs	Annual New HIV Infections Category						Total Districts
	<50	≥50 ≤100	≥100 ≤200	≥200			
				≥200 ≤500	≥500 ≤1,000	≥1,000	
Andaman & Nicobar Islands	3						3
Andhra Pradesh		2	4	7			13
Arunachal Pradesh	25						25
Assam	28	2		3			33
Bihar	17	4	7	7	2	1	38
Chandigarh			1				1
Chhattisgarh	16	4	3	5			28
DNH & DD	2	1					3
Delhi		2	1	7	1		11
Goa	2						2
Gujarat	14	8	8	3			33
Haryana	12	6		3	1		22
Himachal Pradesh	12						12
Jammu & Kashmir and Ladakh	21	1					22
Jharkhand	17	2	3	2			24
Karnataka	22	7		1			30
Kerala	8	5		1			14
Madhya Pradesh	27	18	7				52
Maharashtra	20	2	5	5	2	2	36
Manipur	10	3	3				16
Meghalaya	8	1	1	1			11
Mizoram	4	5	1		1		11
Nagaland	4	5	1	1	1		12
Odisha	15	9	4	2			30
Puducherry	3			1			4
Punjab	9	6	4	3			22
Rajasthan	12	12	8	1			33
Sikkim	4						4
Tamil Nadu	20	11	6	1			38
Telangana	27			5	1		33
Tripura	5	2	1				8
Uttar Pradesh	26	28	11	10			75
Uttarakhand	11	1	1				13
West Bengal	5	6	5	7			23
Total	409	153	85	76	9	3	735

IV. Annual PMTCT Need

The annual PMTCT need in the districts ranges between <10 and 450, with 90% of the total PMTCT need in 400 districts. One hundred and eight districts have 50 or more mothers living with HIV in need of PMTCT services in 2019, comprising more than half (52%) of the total need in the country (see Table 8). Another 135 districts have mothers living with HIV in need of PMTCT services in the range of ≥ 25 to <50, comprising 24% of the total need. Each of the rest of 492 districts has less than 25 pregnant mothers living with HIV in 2019, comprising around 24% of the total need.

Among the districts with 50 or more mothers living with HIV, 8 districts have 200 or more, while 28 have PMTCT need in the range of ≥ 100 to less than <200. Together, these 36 districts comprise around 30% of the total PMTCT need.

Table 8: District Count by PMTCT Need Category, 2019

PMTCT Need	Districts (N=735)	States/UTs Having Districts in the Given Category
≥ 50	108	20
$25 \leq 50$	135	22
$10 \leq 25$	223	29
<10	269	32

The States of Andhra Pradesh (12), Bihar (16), Karnataka (8), Maharashtra (15), Rajasthan (6) and Uttar Pradesh (12) have the highest number of districts with 50 or more mothers living with HIV in 2019. Among the northeastern States, Assam, Manipur, Meghalaya, Mizoram and Nagaland have 1–3 districts with 50 or more mothers living with HIV (see Figure 6 and Table 9).

Out of eight districts with annual PMTCT need of 200 or more, one is in Andhra Pradesh, three are in Bihar, one is in Karnataka and three in Maharashtra. Andhra Pradesh has five more districts with PMTCT need in the range of ≥ 100 to <200. Bihar (5), Delhi (1), Gujarat (2), Karnataka (1), Maharashtra (9), Mizoram (1), Nagaland (1), Telangana (1), Uttar Pradesh (1) and West Bengal (1) are other States with districts having PMTCT need in the range of ≥ 100 to <200.

Figure 6: District-wide PMTCT Need in India, 2019

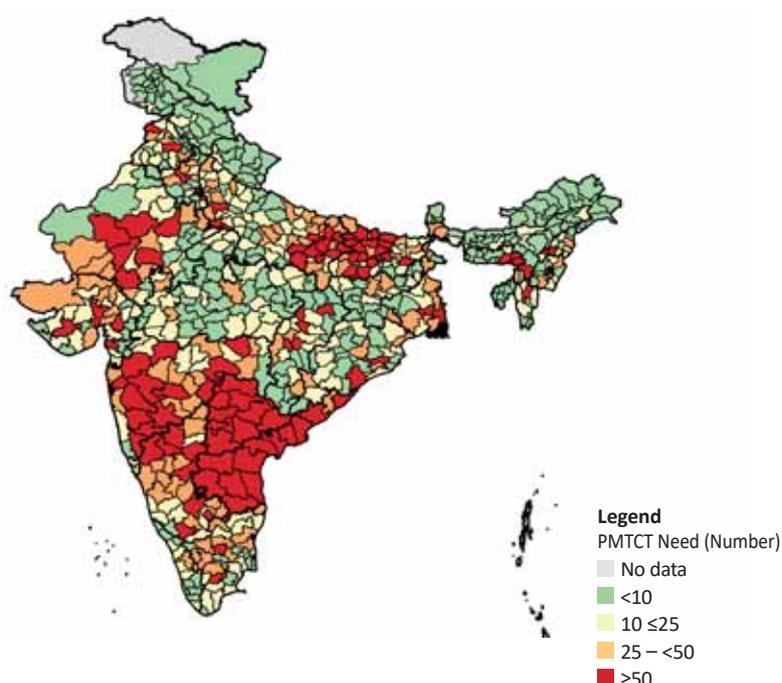


Table 9: State/UT-wide Districts by PMTCT Need, 2019

State/UT	PMTCT Need Category						Total Districts
	<10	≥10 ≤25	≥25 ≤50	≥50			
				≥50 ≤100	≥100 ≤200	≥200	
Andaman & Nicobar Islands	3						3
Andhra Pradesh			1	6	5	1	13
Arunachal Pradesh	25						25
Assam	24	6	2	1			33
Bihar	4	11	7	8	5	3	38
Chandigarh		1					1
Chhattisgarh	12	9	3	4			28
DNH & DD	2	1					3
Delhi	1	1	4	4	1		11
Goa	1	1					2
Gujarat	9	13	7	2	2		33
Haryana	11	5	4	2			22
Himachal Pradesh	11	1					12
Jammu & Kashmir and Ladakh	21	1					22
Jharkhand	13	7	4				24
Karnataka	1	6	15	6	1	1	30
Kerala	8	5	1				14
Madhya Pradesh	26	23	3				52
Maharashtra	2	7	12	3	9	3	36
Manipur	5	7	2	2			16
Meghalaya	6	2		3			11
Mizoram	4	6			1		11
Nagaland	3	6	1	1	1		12
Odisha	13	11	4	2			30
Puducherry	3		1				4
Punjab	4	11	5	2			22
Rajasthan	6	13	8	6			33
Sikkim	4						4
Tamil Nadu	10	15	10	3			38
Telangana	1	17	10	4	1		33
Tripura	7	1					8
Uttar Pradesh	13	28	22	11	1		75
Uttarakhand	10	3					13
West Bengal	6	5	9	2	1		23
Total	269	223	135	72	28	8	735

V. Districts Prioritization

District-level estimation (2019) revealed that there are 25 districts in four States of the country with adult HIV prevalence of 1% or more. Further, there are 122 districts, in 19 States, with PLHIV size estimates of 5,000 or more, accounting for 61% of the total epidemic burden. Altogether, there are 144 districts (in 20 States) that have either an adult HIV prevalence of $\geq 1\%$ or more than 5,000 estimated PLHIV (see Table 10). These 144 high priority districts have almost 63% of the total PLHIV, 49% of total new infections (15+ years) and 55% of the total PMTCT need.

Among the rest, there are 155 districts (in 25 States/UTs) that have either a prevalence in the range of $0.40\% \leq 1\%$ or PLHIV in the range of $2,500 \leq 5,000$. Overall, these 155 districts (moderate priority) have almost 21% of the total PLHIV, 27% of total new infections (15+ years) and 25% of the total PMTCT need.

Excluding the high and moderate priority districts above, there are another 180 districts that have either a prevalence in the range of $0.20\% \leq 0.40\%$ or PLHIV in the range of $\geq 1,000 \leq 2,500$. Overall, these 180 districts (low priority) have almost 12% of the total PLHIV, 16% of total new infections and 14% of the total PMTCT need.

The rest of the 256 districts have around 5–8% of the PLHIV size, new infections and PMTCT need in the country (very low priority districts).

Table 10: District Prioritization with Epidemic Burden, 2019

Priority Level	Description	Number of Districts	Epidemic Burden
High	Adult prevalence of $\geq 1\%$ or PLHIV size of $\geq 5,000$	144	63% of PLHIV, 49% of new infections and 55% of PMTCT need
Moderate	Adult prevalence of $0.4\% \leq 1\%$ or PLHIV size of $2,500 \leq 5,000$	155	21% of PLHIV, 27% of new infections and 25% of PMTCT need
Low	Adult prevalence of $0.20\% \leq 0.40\%$ or PLHIV size of $1,000 \leq 2,500$	180	12% of PLHIV, 16% of new infections and 14% of PMTCT need
Very Low	Adult prevalence of $< 0.20\%$ or PLHIV size of $< 1,000$	256	4% of PLHIV, 8% of new infections and 6% of PMTCT need

High priority districts are largely located in the southern States of Karnataka (21), Andhra Pradesh (13), Telangana (12) and Tamil Nadu (11), western States of Maharashtra (20) and Gujarat (4), northern States of Delhi (7), Uttar Pradesh (5) and Punjab (4), eastern States of Bihar (8) and West Bengal (6) and northeastern States of Manipur (9), Mizoram (8) and Nagaland (6). These States also have the most number of moderate priority districts, including 21 in Uttar Pradesh followed by 14 in Tamil Nadu, 12 in Telangana, 11 in Maharashtra, 10 in Rajasthan, 9 in Gujarat and 8 each in Karnataka and Bihar (see Figure 7 and Table 11).

Figure 7: District Prioritization under NACP, 2019

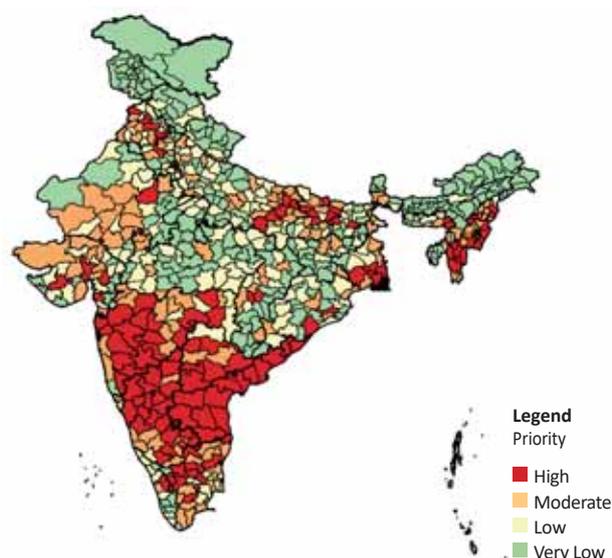


Table 11: State/UT-wide Districts by Priority Level, 2019

State/UT	Priority Level				Total Districts
	High	Moderate	Low	Very Low	
Andaman & Nicobar Islands			1	2	3
Andhra Pradesh	13				13
Arunachal Pradesh				25	25
Assam		3	1	29	33
Bihar	8	8	13	9	38
Chandigarh			1		1
Chhattisgarh	2	5	6	15	28
DNH & DD			2	1	3
Delhi	7	4			11
Goa		1	1		2
Gujarat	4	9	11	9	33
Haryana	2	4	5	11	22
Himachal Pradesh			3	9	12
Jammu & Kashmir and Ladakh			1	21	22
Jharkhand		3	6	15	24
Karnataka	21	8	1		30
Kerala	1	1	8	4	14
Madhya Pradesh		5	21	26	52
Maharashtra	20	11	4	1	36
Manipur	9	7			16
Meghalaya	2	1	3	5	11
Mizoram	8	3			11
Nagaland	6	5	1		12
Odisha	2	4	11	13	30
Puducherry		1		3	4
Punjab	4	7	10	1	22
Rajasthan	1	10	12	10	33
Sikkim				4	4
Tamil Nadu	11	14	11	2	38
Telangana	12	12	9		33
Tripura			1	7	8
Uttar Pradesh	5	21	28	21	75
Uttarakhand		1	3	9	13
West Bengal	6	7	6	4	23
Total	144	155	180	256	735

Conclusion

Countrywide District-Level Hiv Burden Estimation (2019), under the NACP of India, is a global first. It provides key epidemiological evidences for 735 districts across the country using standardized method and tools at all geographic levels for consistency and comparability. The granularity of data augments the insights into the heterogeneity of the HIV/AIDS epidemic in the country, which informs local (district-level) planning and prioritization, for advancing towards the HIV/AIDS 'ENDGAME' in India (Sustainable Development Goal Target 3.3).

Prevalence-wise, only 25 districts in the country have adult HIV prevalence of 1% or more. All of these high prevalence districts are in the northeastern States of Manipur, Mizoram, Meghalaya and Nagaland. Three of these 25 high prevalence districts have a PLHIV size of 5,000 or more: Aizawl in Mizoram (around 11,400 PLHIV with adult prevalence of almost 4%), Dimapur in Nagaland (around 9,700 PLHIV with adult prevalence of around 3%) and Imphal East in Manipur (around 5,600 PLHIV with adult prevalence of 1.70%). On the other ends of spectrum are States like Uttar Pradesh where none of the districts are estimated to have adult HIV prevalence of 0.25% or more. Still, the State has five districts in its eastern regions with a PLHIV size of 5,000 or more. Together, these five districts in the eastern region of Uttar Pradesh have a PLHIV size almost three times that of Aizawl despite having an adult prevalence which is one-twentieth of Aizawl. Similarly, Bihar has three districts with a PLHIV size almost equal to or higher than that of Aizawl. Districts of Mumbai and Mumbai suburban in Maharashtra, with an adult prevalence which is almost half of that of Imphal East (a district in Manipur), together have a PLHIV size which is almost 14 times that of Imphal East. As is evident, district-level HIV estimates provide critical insights to State and national programme managers and policymakers for planning and resource allocations.

The prioritization done on the basis of adult HIV prevalence and PLHIV size takes into account the diversity of HIV epidemic in the country and identifies 299 districts as moderate and high priority districts for the programme. Programmatic focus on these high- and moderate-priority districts will cover almost 75–85% of the total epidemic in the country and provide maximum returns on the investments. However, attainment of the 2025 and 2030 prevention–testing–treatment and EMTCT goals under NACP will also require suitable coverage of the remaining districts to reach the last mile.

The key utilization of the district-level HIV burden estimation must be to decide appropriate district-level strategies as part of the programmatic response. Specifically, the identified high-priority districts need greater focus for stronger programmatic responses. Decentralized ownership, bottom-up planning–implementation–monitoring, resource augmentation, portfolio diversification and capacity building will be critical in augmenting the HIV/AIDS response in these districts.

Evidence-driven decentralized programme management has been the hallmark of the national AIDS response in India. The current district-level HIV burden estimation, the first round providing pan-India estimates, is a natural evolution of the robust strategic information and its uses at the granular level under the programme. The subsequent rounds will further benefit from triangulation, analysis and local intelligence, especially district-level personnel, and thus provide useful lessons on what worked and what needs improvement.

Annexure 1

NACO's National
Working Group
(HIV Estimations 2019)

**T-11020/08/2019 -NACO (Surveillance)
Government of India
Ministry of Health and Family Welfare
National AIDS Control Organization**

9th Floor, Chanderlok Building
36, Janpath, New Delhi, 110001
Dated 21/08/ 2019

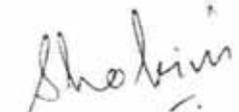
Office Order

Subject: Expansion of Terms of Reference of Working Group for District level PLHIV Estimation to undertake HIV Estimations 2019 under NACP

NACO has created a 'National Working Group' to undertake district level PLHIV estimation through its institutes for HIV Surveillance and Estimation vide office order T-11020/02/2015-NACO (Surveillance) dated 28th June 2018 (Enclosure 1).

The terms of reference of this national working group has been now expanded to undertake HIV Estimations 2019 (National, State and District). The technical considerations and workplan for HIV Estimations 2019 is at annexure 2. All other terms and conditions for the National Working Group remains the same.

This issue with the approval of Special Secretary & DG (NACO & RNTCP)


(Dr Shobini Rajan)
Assistant Director General

Enclosure: As above

To
All members of the Working Group

Copy to:

1. Sr PPS to Special Secretary & DG (NACO & RNTCP)
2. PS to Joint Secretary, NACO
3. Director (ICMR-NIMS, New Delhi)

T-11020/02/2015 -NACO (Surveillance)
Government of India
Ministry of Health and Family Welfare
National AIDS Control Organisation

9th Floor, Chanderlok Building
 36, Janpath, New Delhi, 110001
 Dated 28th June 2018

Office Order

Subject: Working Group for District level PLHIV Estimation under NACP

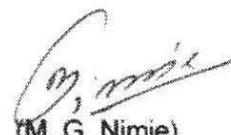
NACO is undertaking district level PLHIV estimation through its institutes for HIV Surveillance and Estimation. A concept note for the same is enclosed.

A working group has been constituted under the chairpersonship of Director (ICMR-NIMS) and Co-chairmanship of Addl. Director General (MES, NACO) for the implementation of the project. Members of the working group are as below:

- i. Dr DCS Reddy, Former HoD, Dept of Community Medicine, IMS, BHU, Varanasi, Uttar Pradesh
- ii. Dr Arvind Pandey, Former Director, NIMS-ICMR, New Delhi
- iii. Dr Shashi Kant, HoD, CCM, AIIMS, New Delhi
- iv. Dr Alok Deb, Epidemiologist and Scientist E, ICMR-NICED, Kolkata
- v. Focal Person, HIV Surveillance & Estimation, (NIMS, Delhi, NARI, Pune, AIIMS, New Delhi, NIE, Chennai, RIMS, Imphal)
- vi. Dr Nicole Seguy, WHO India
- vii. Dr Savina Ammassari, UNAIDS India
- viii. Ms Deepika Srivastava Joshi, CDC-DGHT India
- ix. Dr Yujwal Raj, Former NPO, NACO
- x. Dr S K Singh, Professor, IIPS
- xi. SACS Representatives (Maharashtra, Mumbai, Uttar Pradesh, Mizoram, Gujarat and Tamil Nadu, to be deputed by PD SACS)
- xii. Program Division Representatives (NC-ART, NC-ICTC, PO-Surveillance)

The working group will meet 5-7 times towards the implementation of the project and finally come out with most suitable methods/method-mix for district level estimation in India. The outcomes of the work will be reviewed and approved by Technical Resource Group (TRG) on HIV Surveillance and Estimation.

This issue with the approval of competent authority, NACO.



(M. G. Nimje)

Under Secretary to Govt of India

Enclosure: As above

To

All members of the Working Group

Copy to:

1. PS to Joint Secretary, NACO
2. Director (ICMR-NIMS, New Delhi)

Government of India
Ministry of Health & Family Welfare
National AIDS Control Organization

Concept Note on HIV Estimations 2019

Background

National AIDS Control organization (NACO), Ministry of Health and Family Welfare, Government of India periodically undertakes HIV estimation process to provide the updated information on the status of HIV epidemic in India. First HIV estimation in India was done in 1998 while last round was done in 2017. India HIV Estimates 2019, current round in the series, will provide current status of HIV epidemic in country, States and district on key parameters of HIV prevalence, new infections and AIDS related mortality.

HIV Estimations Implementation Mechanism

A national working group (NWG), under the leadership of NACO and ICMR-NIMS, New Delhi and with involvements of members from developmental partners (UNAIDS, USAID, WHO and CDC) and other national and regional institutes for epidemic monitoring, undertakes this estimation work. The institutes include (i) All India Institute of Medical Sciences (AIIMS-Delhi), (ii) ICMR-National AIDS Research Institute (ICMR-NARI, Pune), (iii) ICMR-National Institute of Epidemiology (ICMR-NIE, Chennai), (iv) Post Graduate Institute of Medical Education and Research (PGIMER, Chandigarh), (v) ICMR-National Institute of Cholera and Enteric Diseases (ICMR-NICED, Kolkata) and (vi) Regional Institute of Medical Sciences (RIMS-Imphal). NWG, chaired by Director (ICMR-NIMS) and co-chaired by division head of Strategic Information division, NACO is responsible for doing the all the works related to HIV Estimations.

The results generated by NWG is critically reviewed and approved by Technical Resource Group (TRG) on "Surveillance and Estimation". Currently, Additional Secretary (NACO & RNTCP) is chair of the TRG. The members are the senior most national and international experts on HIV surveillance, epidemiology and estimations.

HIV Estimations 2019

NACO has approved the workplan for HIV Estimations 2019. This round is unique in itself as it aims to provide the current status of HIV epidemic on key parameters of HIV prevalence, new infections and AIDS related mortality upto the district level. The tentative workplan for HIV Estimations 2019 is as below:

S No	Activity	Proposed Timelines
1	Updated input data in State-wise model and running the model; proposals for bridge population and HRG size estimates; localization of survival assumption	July-August 2019
2	Capacity Building cum consultation workshop of NWG, Experts, RI and State representatives with support from UNAIDS	27-30 th August 2019
3	Modifications of Input data in State-wise model and running the model	September'19
4	Second meeting of NWG	Last week of September'19
5	Modification in models and firming up the results	October'19
6	Third meeting of NWG for State and National Estimates	Mid of October'19

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7	Meeting of TRG on HIV Surveillance and Estimation	First week of November'19
8	Finalization of report and printing	Second and third week of November'19
10	Release of HIV Estimations 2019 Report with State and National Estimates	st 1 December 2019
11	Fourth meeting of NWG for HIV Estimations 2019 district estimates	Mid of January 2020
12	Second meeting of NWG for HIV Estimations 2019 district estimates	Last week of January 2020
13	Meeting of TRG on HIV Surveillance and Estimation for HIV Estimations 2019 district estimates	First Week of March 2020
14	Finalization of report and printing	Second and third week of March 2020
15	Release of HIV Estimations 2019 Report with District Estimates	Last week of March 2020

Expert Consultation-Cum-Capacity Building Workshop

The expert consultation-cum-capacity building workshop is one of the most fundamental meeting under series of meeting planned under HIV Estimations 2019. This is in line with past practices where officers from regional institutes, State AIDS Control Societies as well as members from national working group are trained on latest Spectrum model in the beginning of estimation round. The training is imparted by the best resource person in the world. This helps to widen the knowledge about this complex procedure and thus improves the ownership of the findings. In continuation of the tradition, day 1-3 will focus on capacity building of various stakeholders that will include updating them on the methodology as well as concepts behind it. The training design is mix of plenary, demonstrations and hands-on sessions.

Day 4 has been designed to take experts advice on select technical aspects of the HIV Estimations 2019. The objective of this expert consultation is to discuss the technical aspects further augmenting the technical rigour of HIV Estimations process under NACP. The key technical aspects under consideration for discussion are as below:

- HRG size estimates; mathematical estimates; IDU Size
- Bridge population segment in epidemic configuration
- Informing survival assumptions when on ART with India programme data
- Using pregnant women routine testing data on surveillance page
- CLHIV Size Estimates
- Wide uncertainty bound in HIV Estimations 2017

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Data Need

The HIV Estimations 2019 will build upon the State models prepared for 2017 round. The demographic, programmatic and epidemiological data will be updated in the State model as a part of the process (Annexure 1-6). Programmatic data on PMTCT coverage, Adult ART coverage and child treatment will be updated in each States model for year 2017 and 2018. Epidemiological data, site-wise tested and positivity, from surveillance will be also updated from ANC HSS 2019 in State model.

The State model thus developed will be disaggregated into districts estimates using sub-epidemic model. The routine testing data from PMTCT programme from confirmatory centres will be used as additional data to inform the level and trend of HIV burden at district level.

Funding Support

The work will be completely supported within the already approved NACO's MoU with ICMR-NIMS for the period 2018-20. No additional fund will be required from NACO's to implement the project. Need based complementary funding to support the participation of out-side members will be explored through the partners funding if required.

Outcome

- Creation of a resource pool across stake-holders with in-depth understanding of the estimation model under NACP
- Augmented ownership of Estimations process
- Way forwards on further augmenting the technical rigour of HIV Estimations under NACP

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Annexure 1. PPTCT coverage (Number) (To be derived from PALS)

Name of State	2017-18			2018-19			2019-20		
	Triple ART started before current pregnancy	Triple ART started during current pregnancy > 4 weeks before delivery	Triple ART started during current pregnancy < 4 weeks before delivery	Triple ART started before current pregnancy	Triple ART started during current pregnancy > 4 weeks before delivery	Triple ART started during current pregnancy < 4 weeks before delivery	Triple ART started before current pregnancy	Triple ART started during current pregnancy > 4 weeks before delivery	Triple ART started during current pregnancy < 4 weeks before delivery
			Total			Total			Total

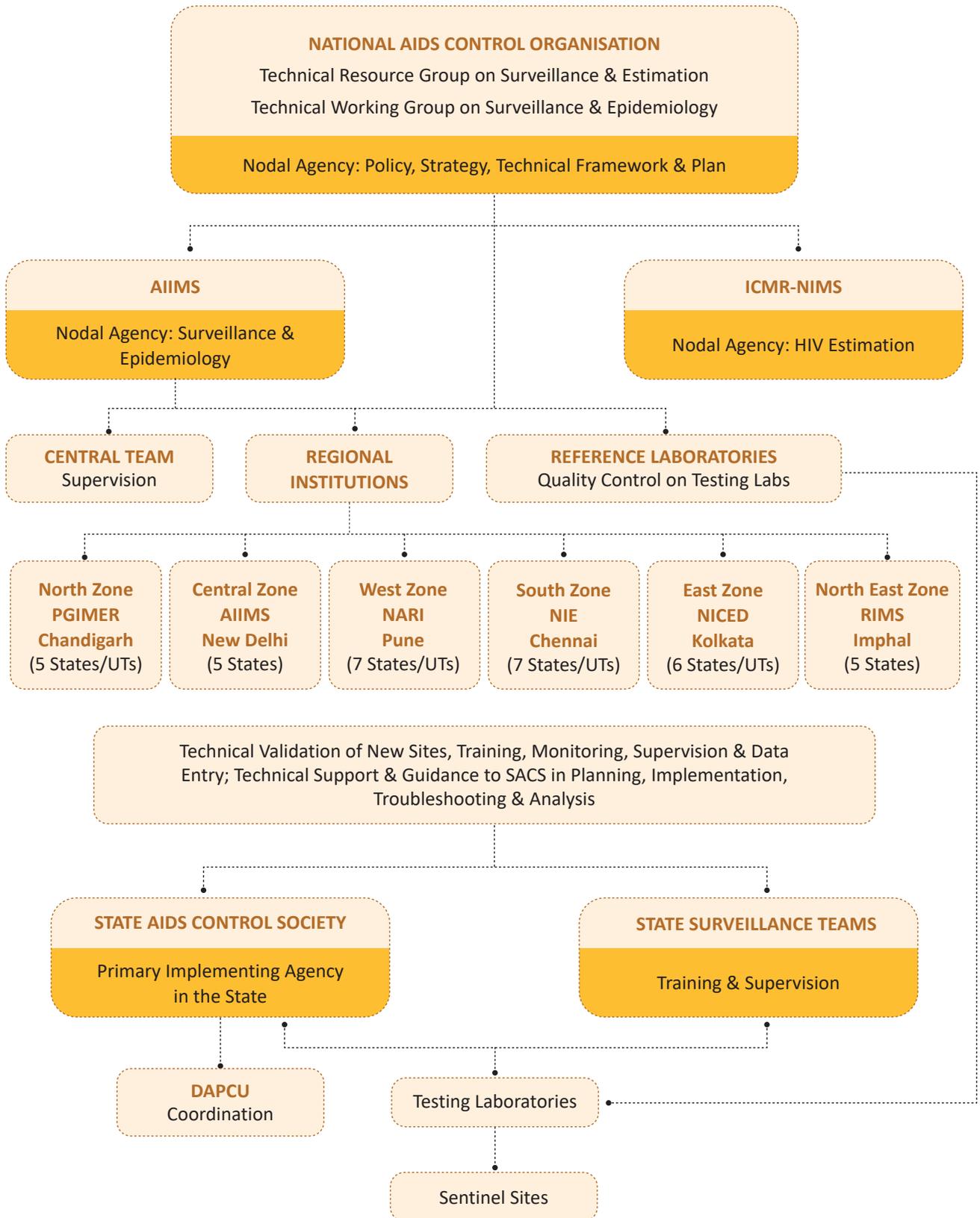
Annexure 2. Adult ART coverage (Number) (To be taken from CST-MPR)

Name of State	Gender	2017-18*	2018-19**	2019-20#
	Male			
	Female			
	H/TG			
	Total			

* As on March 2018, ** As on March 2019, # As on July 2019

Annexure 2

**Institutional
Arrangement for
Surveillance and
Epidemiology under
NACP**



Annexure 3

NACO's Technical
Resource Group on
HIV Surveillance and
Estimation

Chair: Smt. Arti Ahuja, Former Additional Secretary and Director General, NACO / Shri Alok Saxena, Additional Secretary and Director General, NACO

Co-chair: Dr. Sanjay Mehendale, Additional Director General, ICMR

Member Secretary: Dr. Shobini Rajan, Chief Medical Officer (SAG), NACO

Members:

1. Dr. Henk Bekedam, Country Representative, WHO India
2. Dr. Bilali Camara, Country Director, UNAIDS India
3. Dr. N. S. Dharmshaktu, Principal Advisor to Ministry on Public Health, MoHFW, GOI
4. Dr. Peter Ghys, Director, Strategic Information and Evaluation, UNAIDS, Geneva
5. Dr. D. C. S. Reddy, Former Head of Department, Department of Community Medicine, Banaras Hindu University, Lucknow and Ex-NPO, WHO India
6. Prof. Arvind Pandey, Advisor, National Institute of Medical Statistics, New Delhi
7. Dr. Rajesh Kumar, Head, School of Public Health, PGIMER, Chandigarh
8. Dr. Samiran Panda, Director, National AIDS Research Institute, Pune
9. Dr. Manoj Vasant Murhekar, Director, National Institute of Epidemiology, Chennai
10. Dr. Shanta Dutta, Director, National Institute of Cholera and Enteric Diseases, Kolkata
11. Dr. Shashi Kant, Professor and Head, Centre for Community Medicine, All India Institute for Medical Sciences, New Delhi
12. Dr. S. Baby Vasumathi, Director, Institute of Obstetrics & Gynaecology, Madras Medical College, Chennai
13. Dr. Sanjay Dixit, Department of Community Medicine, MGM Medical College, Indore
14. Dr. D. K. Shukla, Former I/C Director, ICMR-NIMS, New Delhi
15. Dr. Laxmisha Chandrashekar, Head of Department, Department of Dermatology and STD, JIPMER, Puducherry
16. Mr. Taoufik Bakkali, UNAIDS Regional Support Team for Asia and the Pacific, Bangkok
17. Dr. Laishram Ladu Singh, Officiating Director, International Institute for Population Sciences, Mumbai
18. Dr. Jagdish Chandra, Former Director, Kalawati Saran Children's Hospital, New Delhi
19. Dr. Timothy Holtz, Director, DGHT, CDC India
20. Dr. John Stover, Vice President, Avenir Health and member UNAIDS HIV Estimation Reference Group
21. Mr. Ashok R. Kavi, Chairman, The Humsafar Trust
22. Mx. Abhina Aher, Associate Director, India HIV/AIDS Alliance
23. Dr. Naresh Goel, Deputy Director General, NACO
24. Dr. R. S. Gupta, Former Deputy Director General, NACO
25. Dr. Anoop Kumar Puri, Deputy Director General, NACO

Overall Coordination

1. Dr. Damodar Sahu, Scientist F & HIV Estimation Focal Person, ICMR-NIMS
2. Dr. Pradeep Kumar, Programme Officer, Surveillance & Epidemiology, NACO

Annexure 4

State/UT-wide
Factsheets

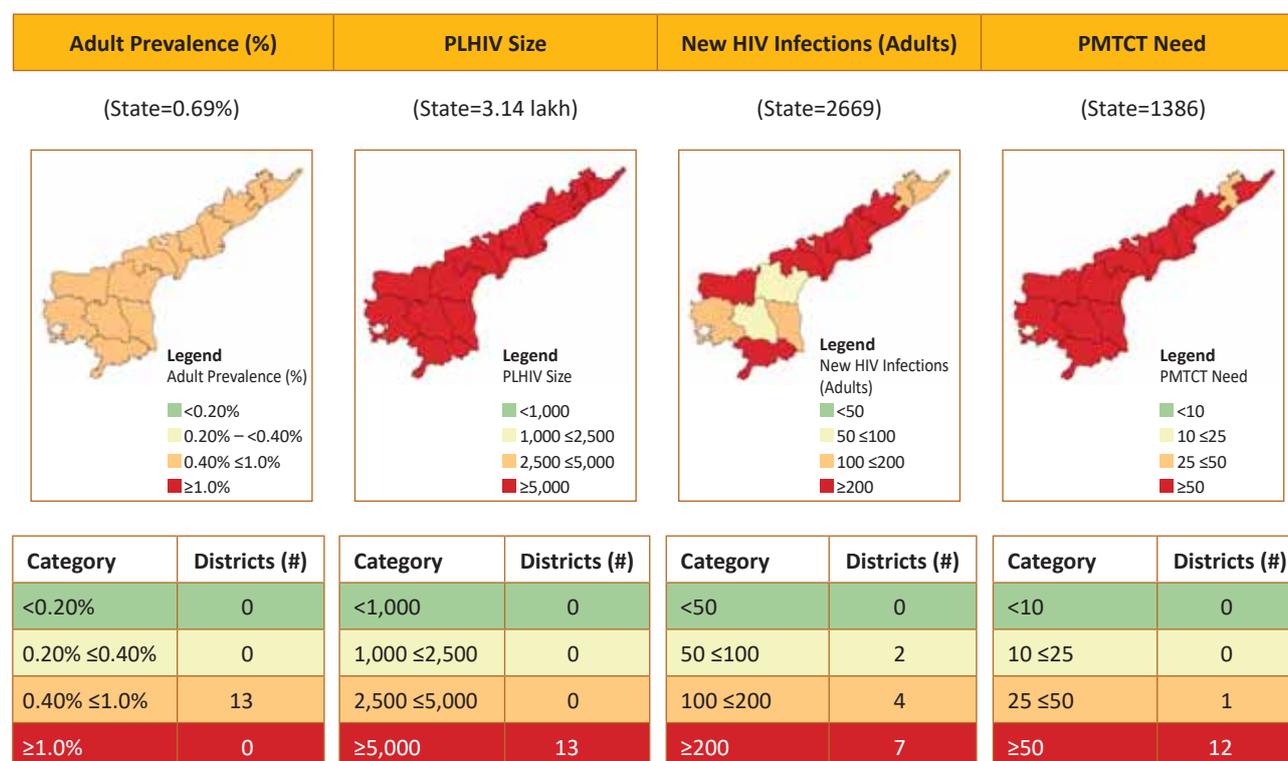
Andhra Pradesh

District-wide Key Epidemiological Estimates, HIV Estimations 2019

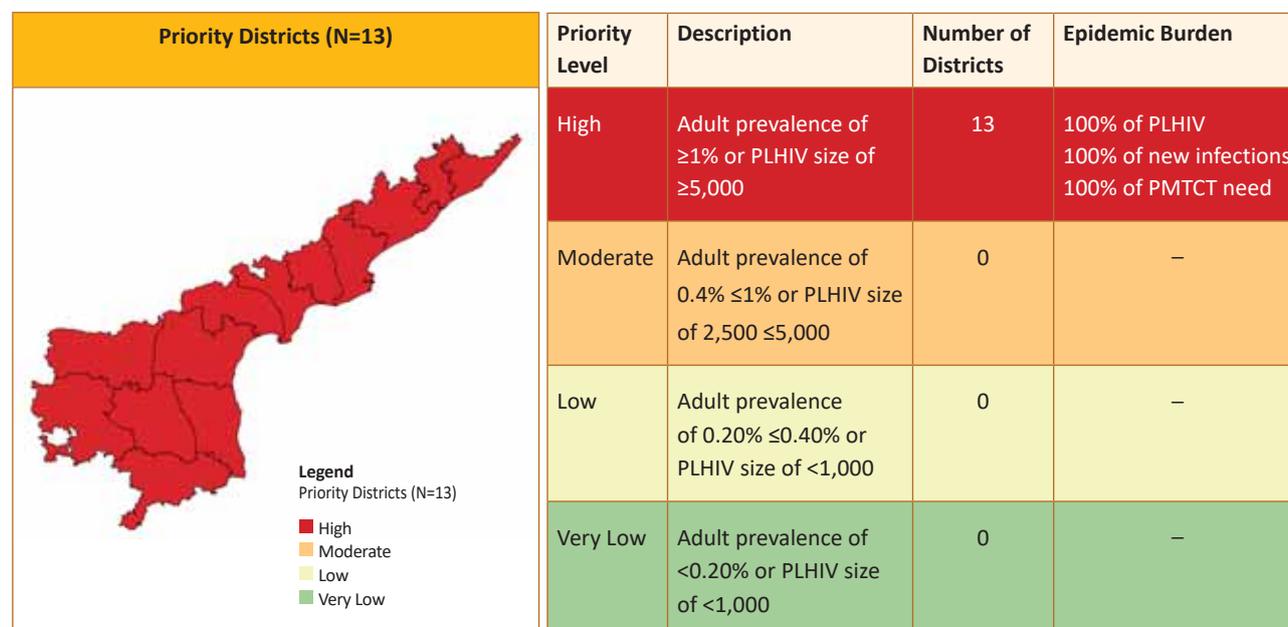
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Anantapur	0.519	19206	167	688	85	High
2	Chittoor	0.484	18234	203	646	81	High
3	East Godavari	0.950	45743	335	1621	202	High
4	Guntur	0.932	42108	238	1501	186	High
5	Krishna	0.888	37753	347	1355	167	High
6	Kurnool	0.448	16488	215	591	73	High
7	Prakasam	0.826	25247	90	897	111	High
8	Srikakulam	0.501	12257	105	439	54	High
9	Sri Potti Sriramulu Nellore	0.571	15710	136	563	69	High
10	Visakhapatnam	0.615	25077	357	888	111	High
11	Vizianagaram	0.501	10713	134	384	47	High
12	West Godavari	0.906	33332	268	1194	147	High
13	YSR (Kadapa)	0.457	11857	76	425	53	High

Andhra Pradesh

District-wide Map on Key Indicators



Priority Districts



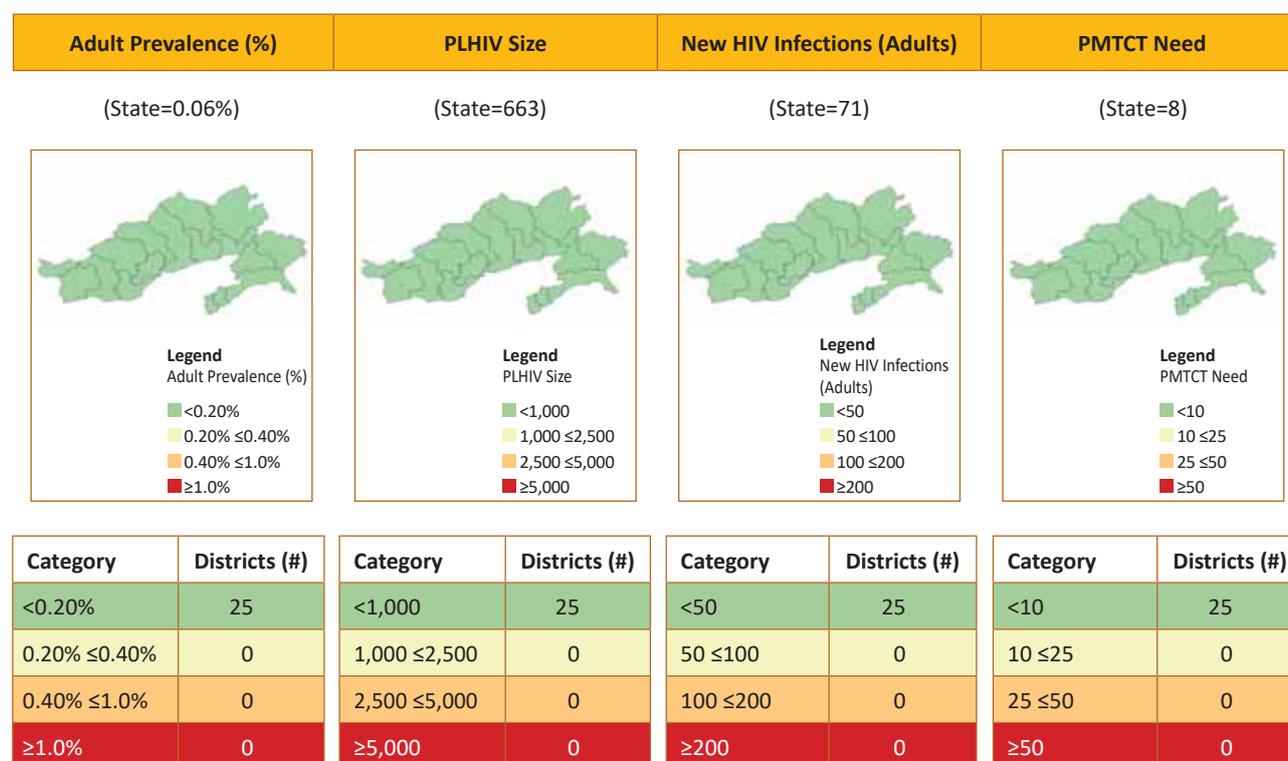
Arunachal Pradesh

District-wide Key Epidemiological Estimates, HIV Estimations 2019

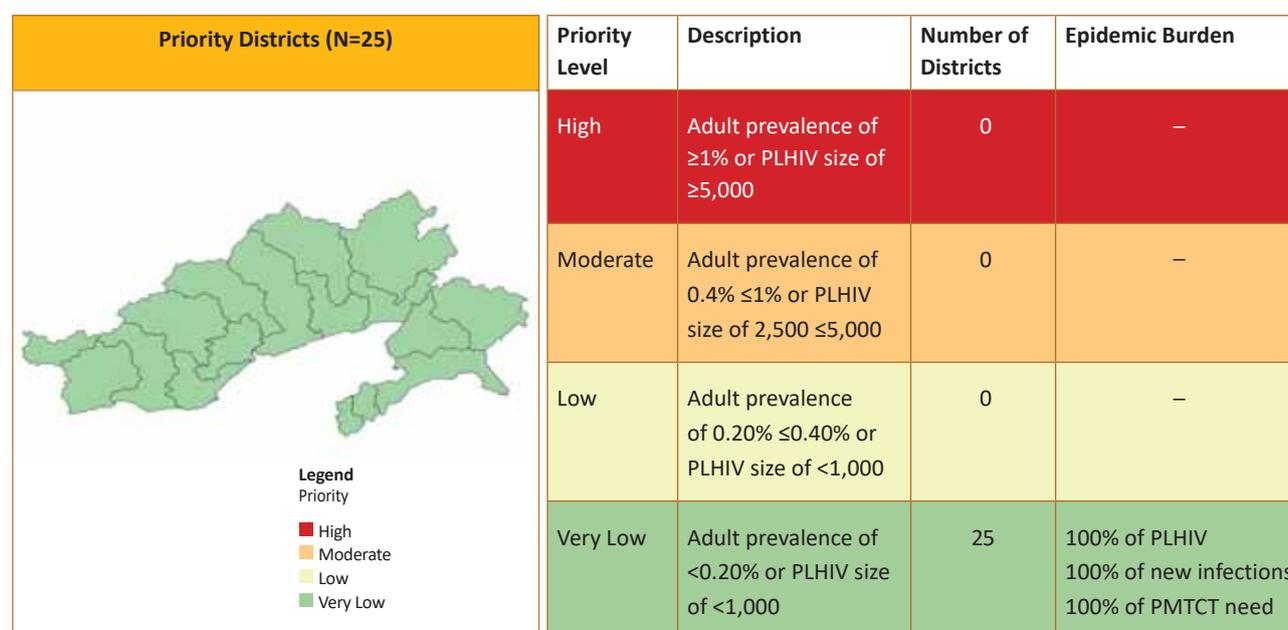
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Anjaw	<0.10	<100	<25	<25	<25	Very Low
2	Changlang	<0.10	<100	<25	<25	<25	Very Low
3	Dibang Valley	<0.10	<100	<25	<25	<25	Very Low
4	East Kameng	0.104	<100	<25	<25	<25	Very Low
5	East Siang	<0.10	<100	<25	<25	<25	Very Low
6	Kamle	<0.10	<100	<25	<25	<25	Very Low
7	Kra Daadi	<0.10	<100	<25	<25	<25	Very Low
8	Kurung Kumey	<0.10	<100	<25	<25	<25	Very Low
9	Lepa Rada	<0.10	<100	<25	<25	<25	Very Low
10	Lohit	<0.10	<100	<25	<25	<25	Very Low
11	Longding	<0.10	<100	<25	<25	<25	Very Low
12	Lower Dibang Valley	<0.10	<100	<25	<25	<25	Very Low
13	Lower Siang	<0.10	<100	<25	<25	<25	Very Low
14	Lower Subansiri	<0.10	<100	<25	<25	<25	Very Low
15	Namsai	<0.10	<100	<25	<25	<25	Very Low
16	Pakke-Kessang	0.104	<100	<25	<25	<25	Very Low
17	Papumpare	0.107	163	<25	<25	<25	Very Low
18	Shi-Yomi	<0.10	<100	<25	<25	<25	Very Low
19	Siang	<0.10	<100	<25	<25	<25	Very Low
20	Tawang	<0.10	<100	<25	<25	<25	Very Low
21	Tirap	<0.10	<100	<25	<25	<25	Very Low
22	Upper Siang	<0.10	<100	<25	<25	<25	Very Low
23	Upper Subansiri	<0.10	<100	<25	<25	<25	Very Low
24	West Kameng	0.104	<100	<25	<25	<25	Very Low
25	West Siang	<0.10	<100	<25	<25	<25	Very Low

Arunachal Pradesh

District-wide Map on Key Indicators



Priority Districts



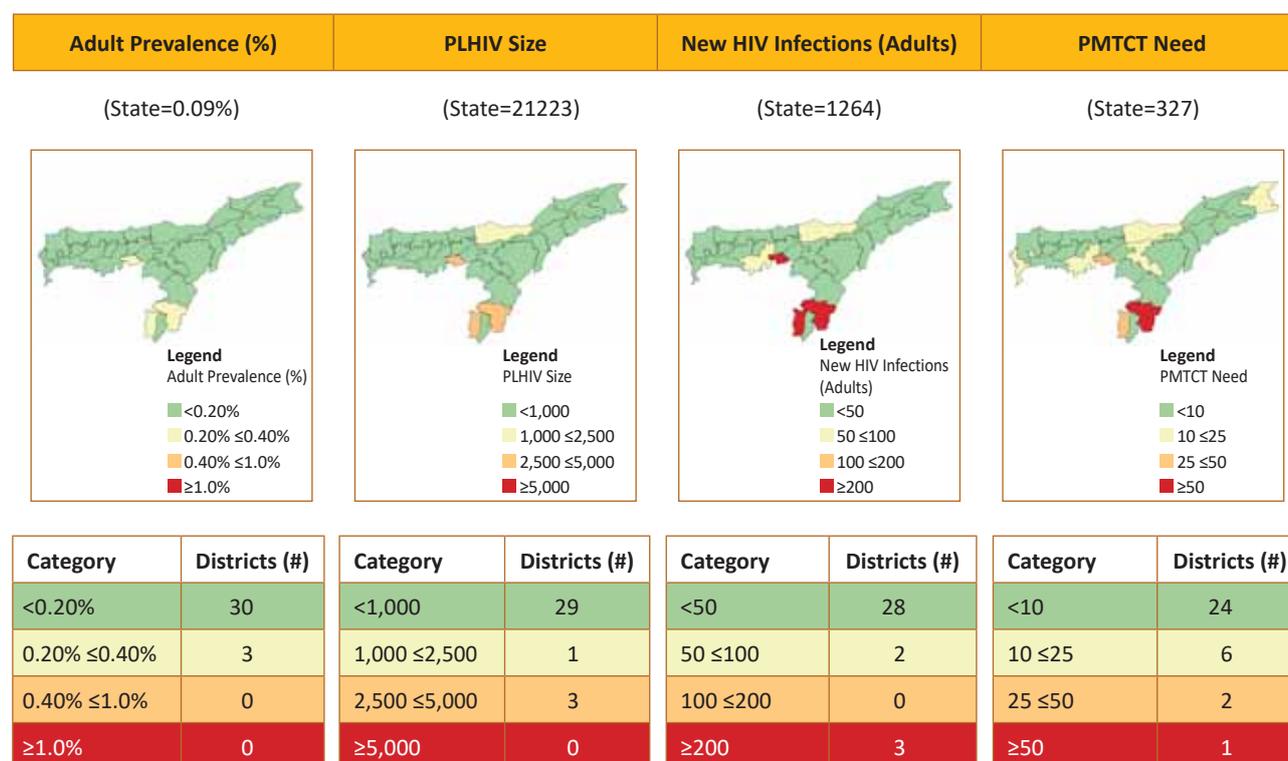
Assam

District-wide Key Epidemiological Estimates, HIV Estimations 2019

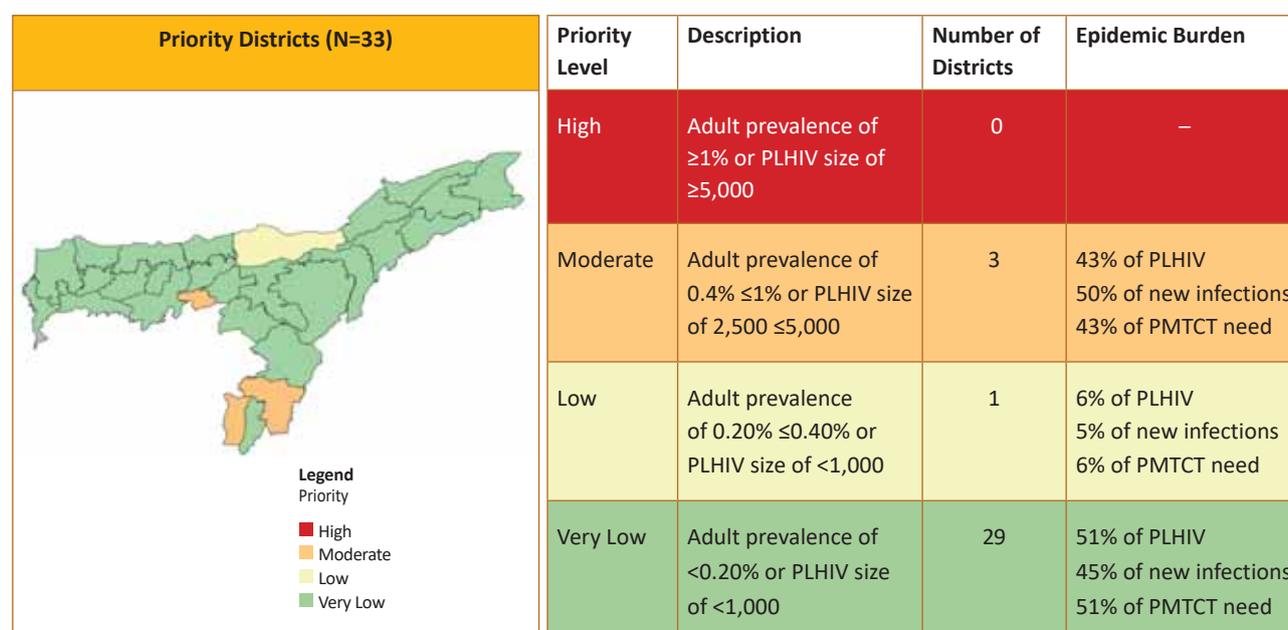
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Barpeta	<0.10	358	<25	<25	<25	Very Low
2	Bongaigaon	<0.10	252	<25	<25	<25	Very Low
3	Cachar	0.260	3409	203	81	53	Moderate
4	Chirang	<0.10	208	<25	<25	<25	Very Low
5	Darrang	<0.10	385	<25	<25	<25	Very Low
6	Dhemaji	<0.10	126	<25	<25	<25	Very Low
7	Dhubri	<0.10	707	36	<25	<25	Very Low
8	Dibrugarh	<0.10	246	<25	<25	<25	Very Low
9	Dima Hasao	0.177	292	<25	<25	<25	Very Low
10	Goalpara	<0.10	202	<25	<25	<25	Very Low
11	Golaghat	<0.10	387	<25	<25	<25	Very Low
12	Hailakandi	<0.10	374	<25	<25	<25	Very Low
13	Jorhat	<0.10	331	<25	<25	<25	Very Low
14	Kamrup Rural	<0.10	769	53	<25	<25	Very Low
15	Kamrup Metropolitan	0.261	2784	212	66	43	Moderate
16	Karimganj	0.332	2901	215	69	44	Moderate
17	Kokrajhar	<0.10	232	<25	<25	<25	Very Low
18	Lakhimpur	<0.10	231	<25	<25	<25	Very Low
19	Morigaon	<0.10	367	<25	<25	<25	Very Low
20	Baksha	<0.10	599	34	<25	<25	Very Low
21	Nagaon	<0.10	766	28	<25	<25	Very Low
22	Nalbari	<0.10	273	<25	<25	<25	Very Low
23	Sivasagar	<0.10	200	<25	<25	<25	Very Low
24	Sonitpur	0.122	1211	68	29	<25	Low
25	Tinsukia	<0.10	742	32	<25	<25	Very Low
26	Udalguri	<0.10	261	<25	<25	<25	Very Low
27	West Karbi Anglong	0.103	235	<25	<25	<25	Very Low
28	Biswanath	0.127	590	34	<25	<25	Very Low
29	Charaideo	<0.10	132	<25	<25	<25	Very Low
30	East Karbi Anglong	0.105	523	30	<25	<25	Very Low
31	Hojai	0.116	783	43	<25	<25	Very Low
32	Majuli	<0.10	<100	<25	<25	<25	Very Low
33	South Salmara-Mankachar	<0.10	285	<25	<25	<25	Very Low

Assam

District-wide Map on Key Indicators



Priority Districts



Bihar

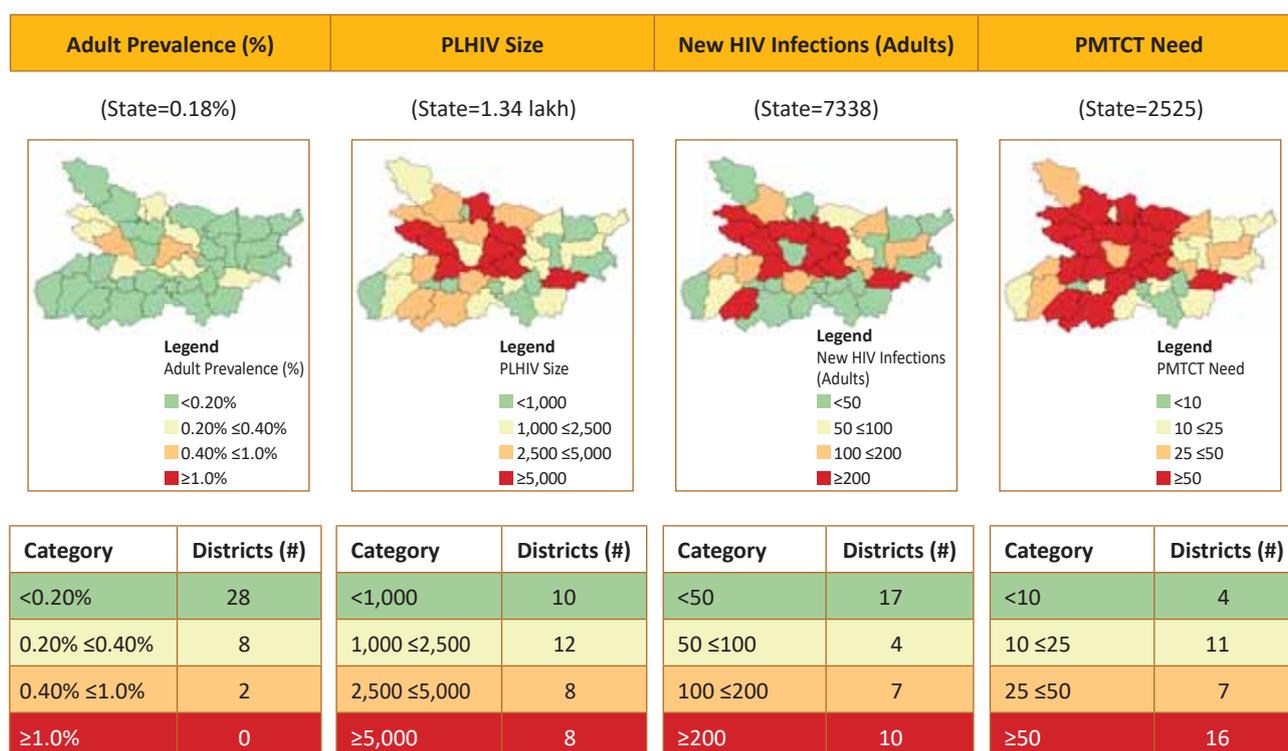
District-wide Key Epidemiological Estimates, HIV Estimations 2019

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Araria	<0.10	626	34	<25	<25	Very Low
2	Arwal	<0.10	103	<25	<25	<25	Very Low
3	Aurangabad	0.157	2886	246	38	55	Moderate
4	Banka	<0.10	1162	<25	<25	<25	Low
5	Begusarai	0.306	6590	298	88	124	High
6	Bhagalpur	0.273	6058	300	81	114	High
7	Bhojpur	0.145	2921	166	39	55	Moderate
8	Buxar	0.178	2182	134	29	41	Low
9	Darbhanga	0.298	8390	286	112	157	High
10	East Champaran	0.133	4721	184	63	89	Moderate
11	Gaya	0.120	3862	<25	52	73	Moderate
12	Gopalganj	0.232	4174	322	56	78	Moderate
13	Jamui	<0.10	272	<25	<25	<25	Very Low
14	Jehanabad	<0.10	595	<25	<25	<25	Very Low
15	Kaimur (Bhabua)	<0.10	748	30	<25	<25	Very Low
16	Katihar	<0.10	594	<25	<25	<25	Very Low
17	Khagaria	0.148	1732	126	<25	33	Low
18	Kishanganj	0.107	1264	<25	<25	<25	Low
19	Lakhisarai	0.165	1175	<25	<25	<25	Low
20	Madhepura	<0.10	666	<25	<25	<25	Very Low
21	Madhubani	0.134	4318	56	57	81	Moderate
22	Munger	<0.10	489	<25	<25	<25	Very Low
23	Muzaffarpur	0.120	4169	305	56	78	Moderate
24	Nalanda	0.132	2740	155	36	51	Moderate
25	Nawada	<0.10	1158	<25	<25	<25	Low
26	Patna	0.242	10828	491	145	204	High
27	Purnia	<0.10	1971	107	26	37	Low
28	Rohtas	0.104	2256	72	30	42	Low
29	Saharsa	<0.10	1115	86	<25	<25	Low
30	Samastipur	0.474	14329	747	191	269	High
31	Saran	0.713	19966	2289	266	375	High
32	Sheikhpura	<0.10	388	<25	<25	<25	Very Low
33	Sheohar	0.201	906	76	<25	<25	Low
34	Sitamarhi	0.234	5624	34	75	106	High
35	Siwan	0.340	8087	587	108	152	High

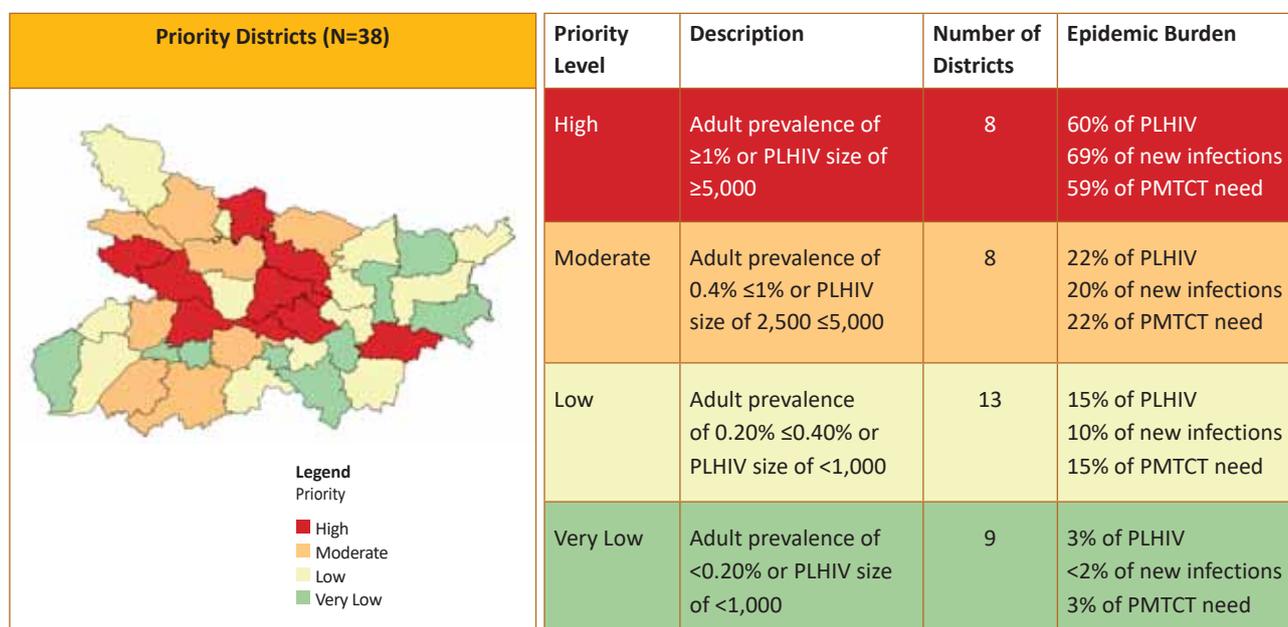
Bihar

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
36	Supaul	<0.10	1551	118	<25	29	Low
37	Vaishali	<0.10	2153	<25	28	41	Low
38	West Champaran	<0.10	1713	<25	<25	32	Low

District-wide Map on Key Indicators



Priority Districts



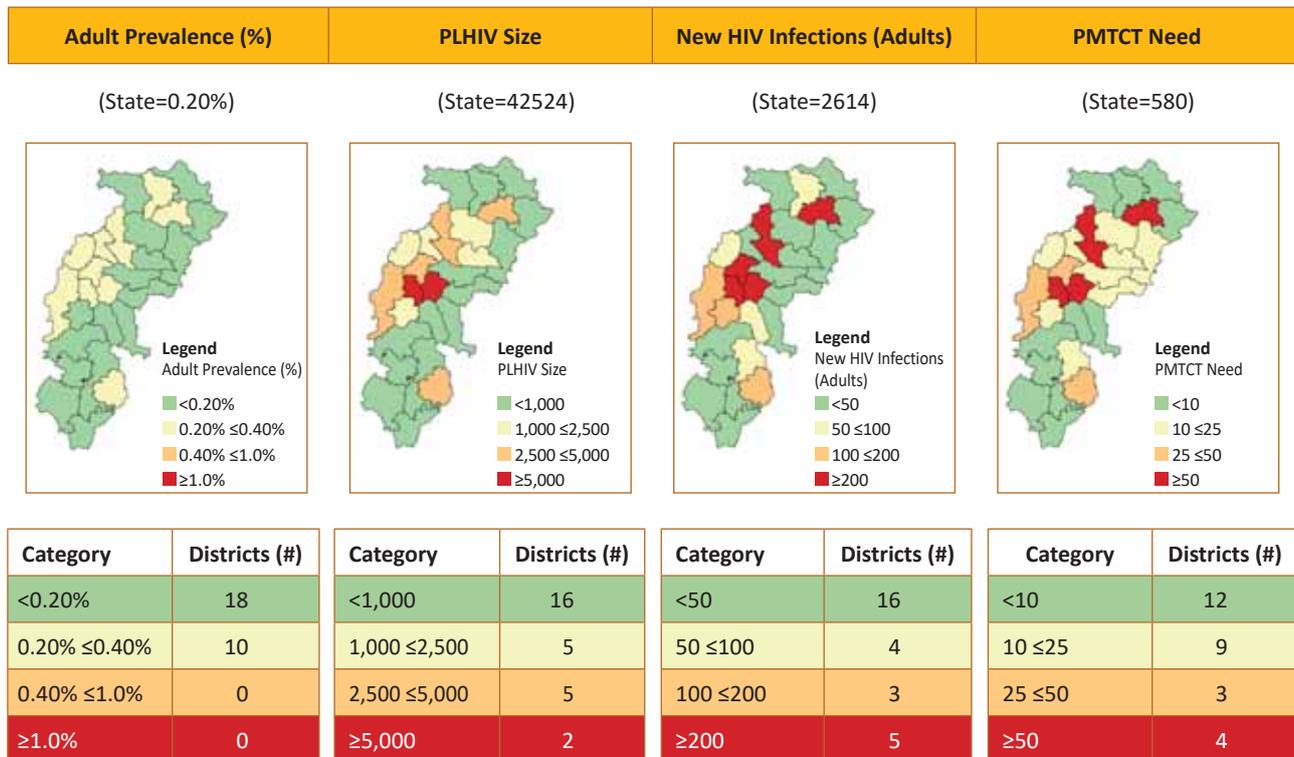
Chhattisgarh

District-wide Key Epidemiological Estimates, HIV Estimations 2019

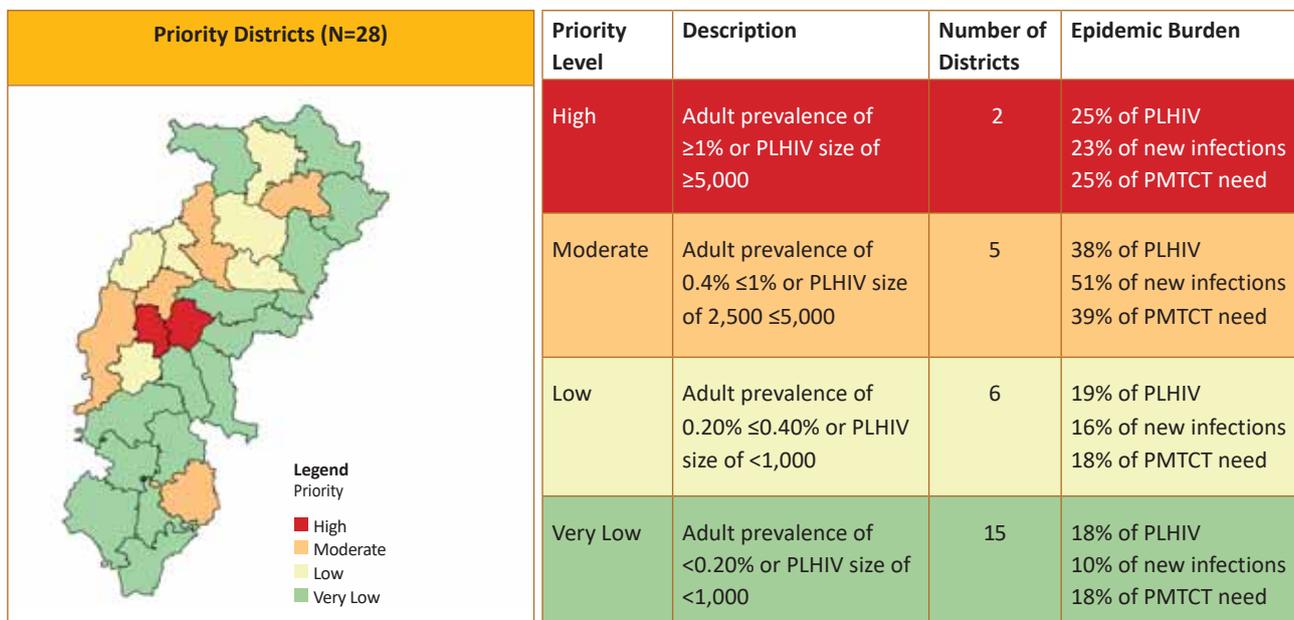
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Balod	0.184	1454	187	46	<25	Low
2	Baloda Bazar	0.107	987	<25	31	<25	Very Low
3	Balrampur	<0.10	329	<25	<25	<25	Very Low
4	Bastar	0.387	2679	191	84	36	Moderate
5	Bemetara	0.349	2655	320	83	36	Moderate
6	Bijapur	<0.10	160	<25	<25	<25	Very Low
7	Bilaspur	0.309	4411	427	139	60	Moderate
8	Dantewada	0.114	252	<25	<25	<25	Very Low
9	Dhamtari	<0.10	521	64	<25	<25	Very Low
10	Durg	0.354	5246	286	164	72	High
11	Gariaband	<0.10	354	<25	<25	<25	Very Low
12	Gaurella-Pendra-marwahi	0.186	507	<25	<25	<25	Very Low
13	Janjgir-Champa	0.125	1546	<25	49	<25	Low
14	Jashpur	<0.10	328	37	<25	<25	Very Low
15	Kabirdhaam(Kawardha)	0.271	1729	91	54	<25	Low
16	Kanker	<0.10	480	<25	<25	<25	Very Low
17	Kondagaon	0.190	917	55	29	<25	Very Low
18	Korba	0.137	1322	<25	41	<25	Low
19	Koriya	0.132	690	<25	<25	<25	Very Low
20	Mahasamund	0.108	833	<25	26	<25	Very Low
21	Mungeli	0.209	1195	49	37	<25	Low
22	Narayanpur	0.149	152	<25	<25	<25	Very Low
23	Raigarh	<0.10	794	<25	<25	<25	Very Low
24	Raipur	0.309	5522	319	173	75	High
25	Rajnandgaon	0.225	2869	151	89	39	Moderate
26	Sukma	0.108	229	<25	<25	<25	Very Low
27	Surajpur	0.295	631	72	<25	<25	Low
28	Surguja	0.346	3731	240	116	51	Moderate

Chhattisgarh

District-wide Map on Key Indicators



Priority Districts



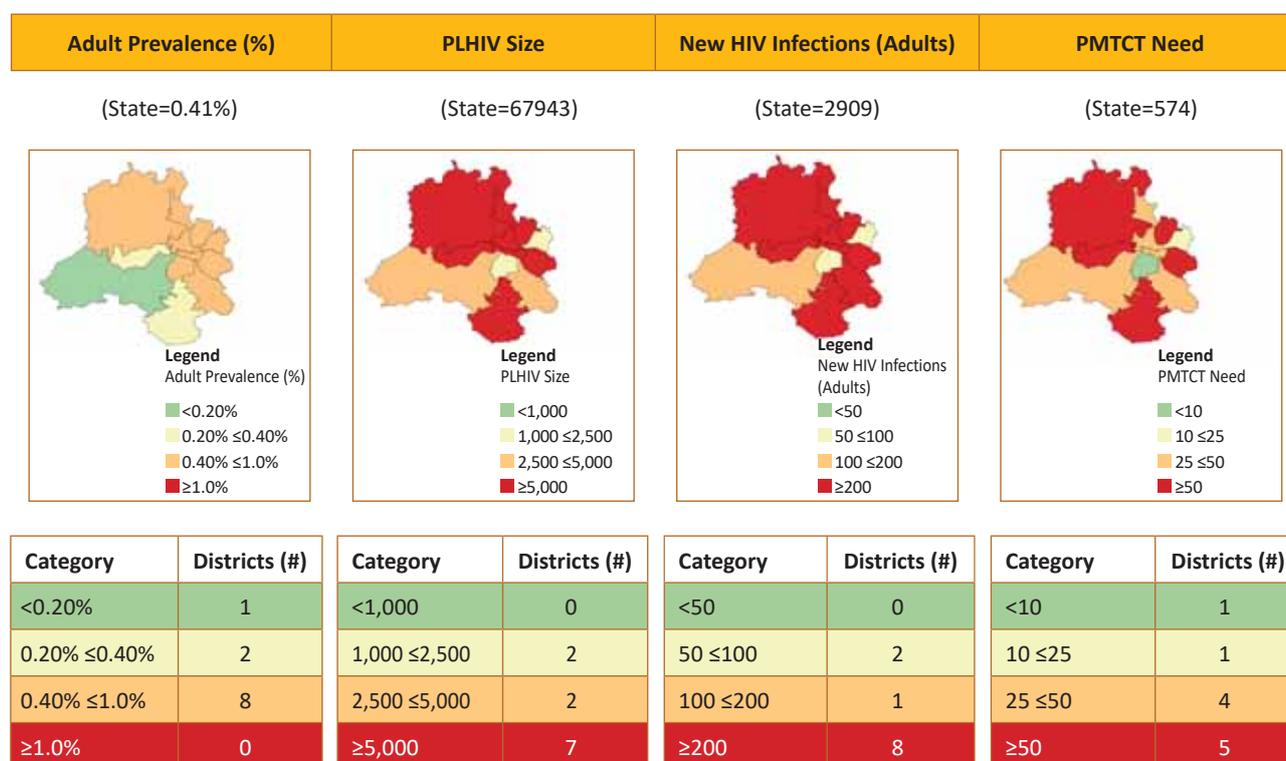
Delhi

District-wide Key Epidemiological Estimates, HIV Estimations 2019

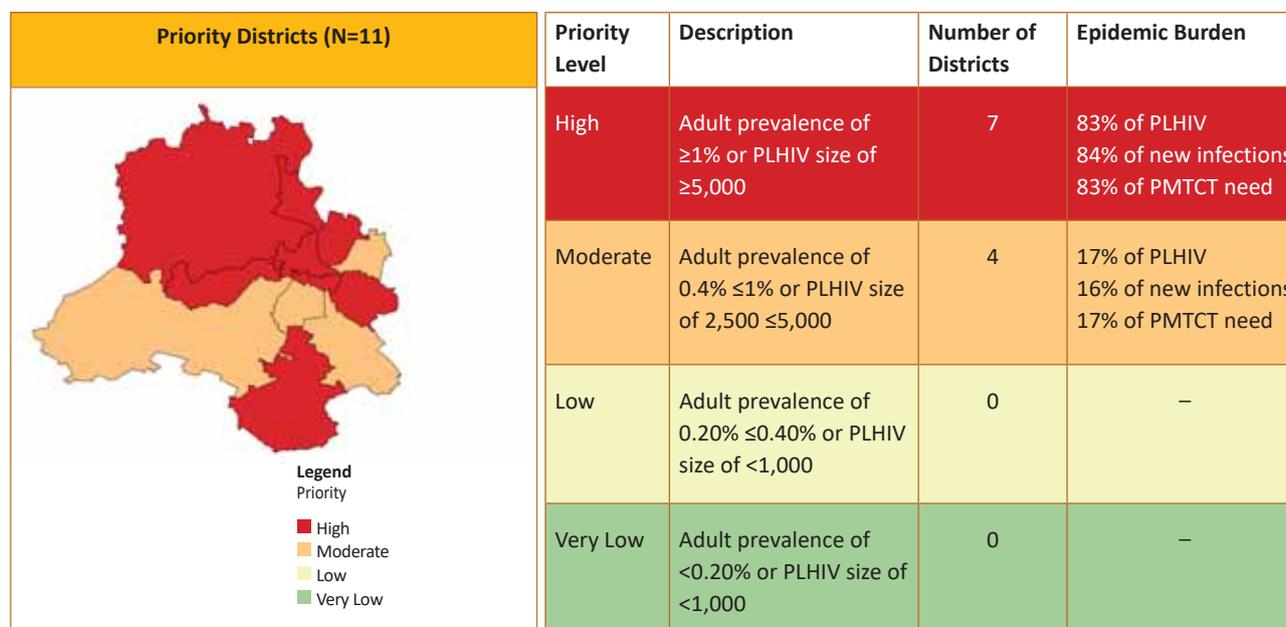
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Central Delhi	0.923	5005	417	69	43	High
2	East Delhi	0.436	7456	245	111	64	High
3	New Delhi	0.769	1170	59	<25	<25	Moderate
4	North Delhi	0.582	5176	293	78	44	High
5	North East Delhi	0.416	7840	524	117	66	High
6	North West Delhi	0.430	15178	482	222	128	High
7	South Delhi	0.370	7721	276	114	66	High
8	South West Delhi	0.184	4356	132	66	37	Moderate
9	West Delhi	0.319	8007	201	120	68	High
10	Shahdara	0.463	1471	73	<25	<25	Moderate
11	South East Delhi	0.706	4565	207	69	39	Moderate

Delhi

District-wide Map on Key Indicators



Priority Districts



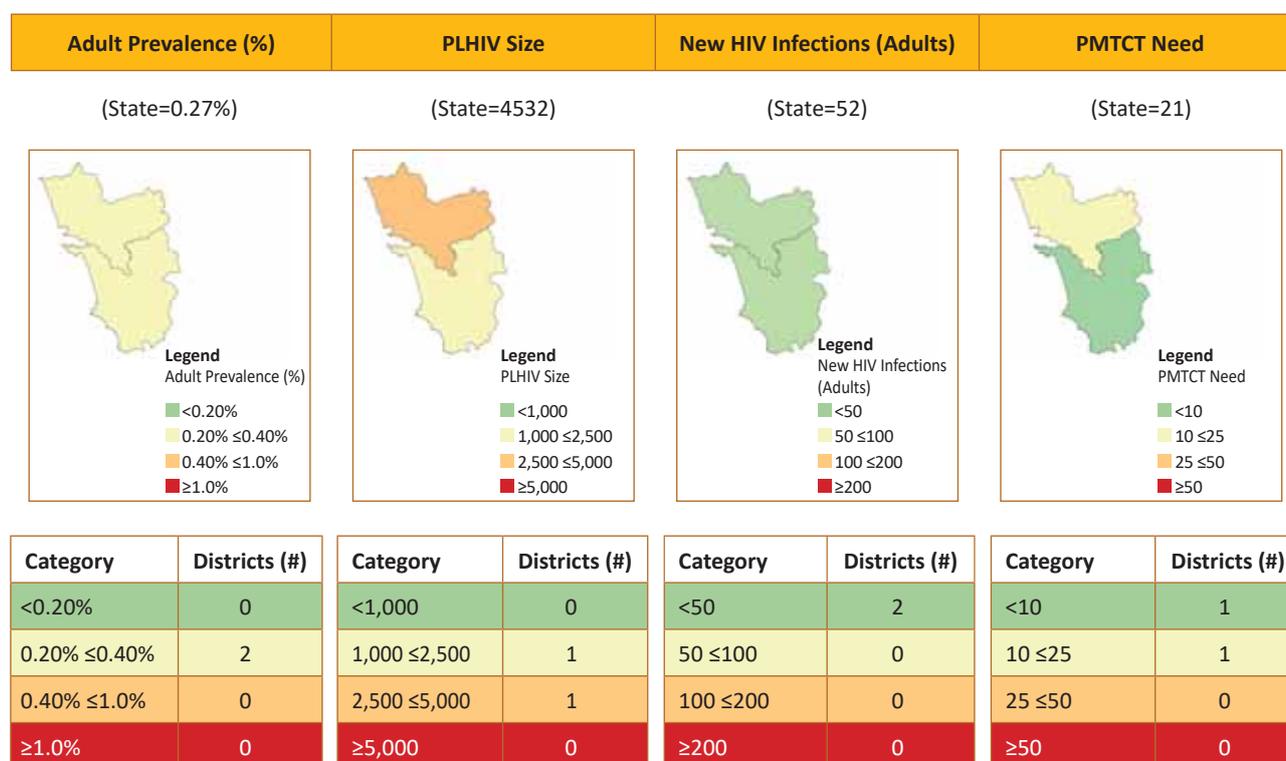
Goa

District-wide Key Epidemiological Estimates, HIV Estimations 2019

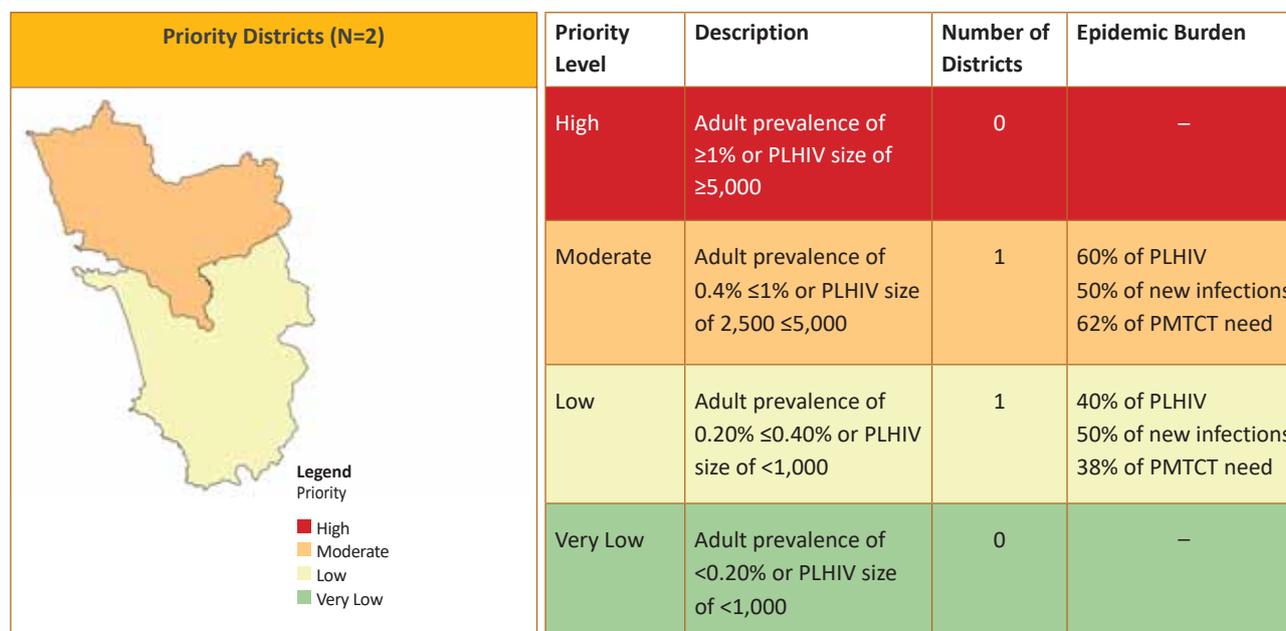
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	North Goa	0.289	2712	26	101	<25	Moderate
2	South Goa	0.245	1820	26	68	<25	Low

Goa

District-wide Map on Key Indicators



Priority Districts



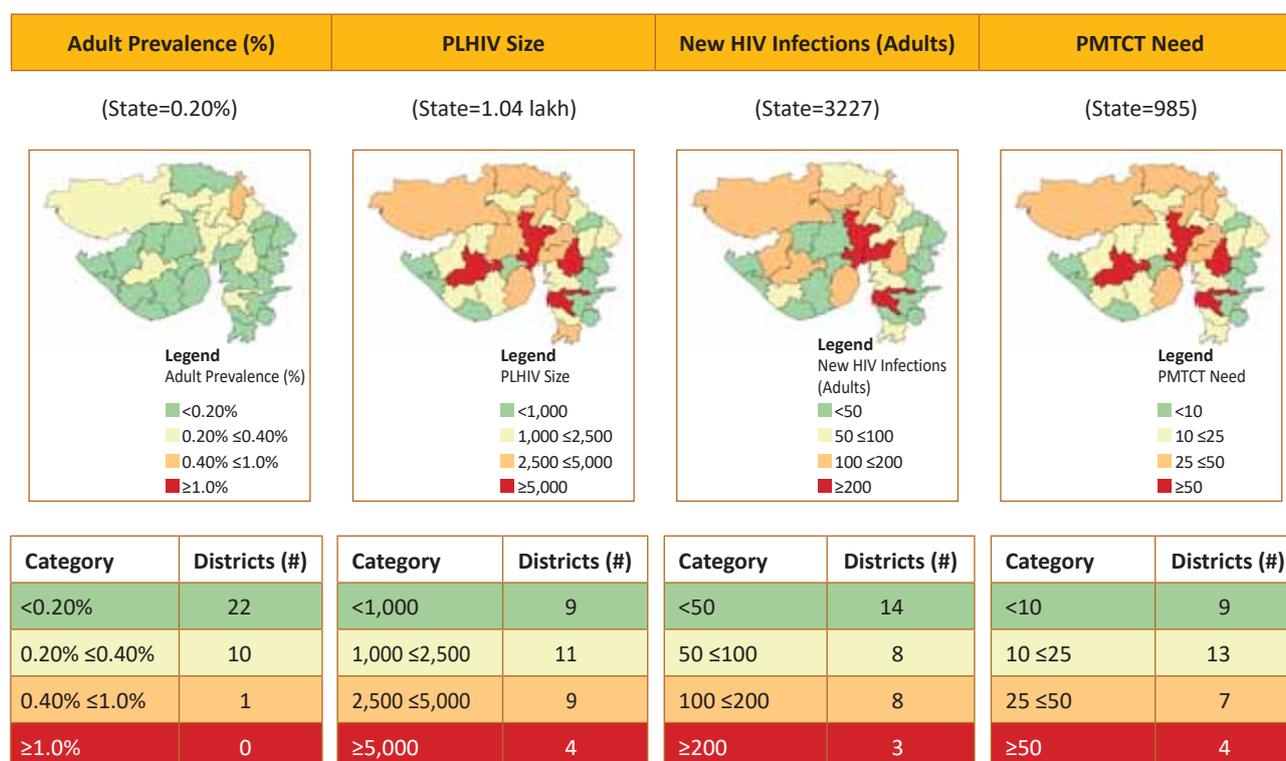
Gujarat

District-wide Key Epidemiological Estimates, HIV Estimations 2019

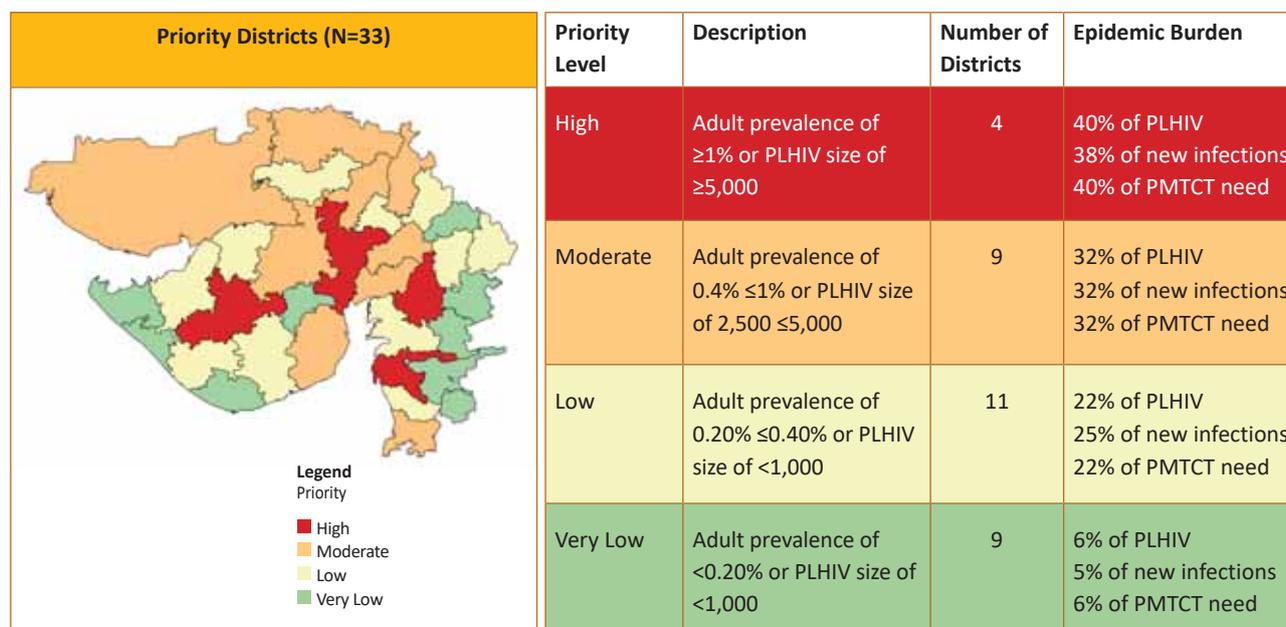
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Ahmedabad	0.232	14435	480	197	137	High
2	Amreli	0.179	2245	45	31	<25	Low
3	Anand	0.187	3339	206	46	32	Moderate
4	Banaskantha	0.148	3712	71	51	35	Moderate
5	Bharuch	0.167	2246	57	31	<25	Low
6	Bhavnagar	0.200	3977	122	54	38	Moderate
7	Dohad	0.118	1870	48	25	<25	Low
8	Gandhinagar	0.202	2464	81	34	<25	Low
9	Jamnagar	0.165	1989	119	27	<25	Low
10	Junagadh	0.177	2306	73	31	<25	Low
11	Kachchh	0.207	3644	103	50	35	Moderate
12	Kheda	0.230	3958	92	54	38	Moderate
13	Mahesana	0.273	4752	189	65	45	Moderate
14	Narmada	0.124	601	27	<25	<25	Very Low
15	Navsari	0.200	2320	48	32	<25	Low
16	PanchMahal	0.165	2181	86	30	<25	Low
17	Patan	0.225	2488	158	34	<25	Low
18	Porbandar	0.166	828	28	<25	<25	Very Low
19	Rajkot	0.228	6021	172	82	57	High
20	Sabarkantha	0.404	4539	141	62	43	Moderate
21	Surat	0.264	15273	365	209	145	High
23	Surendranagar	0.197	2590	36	35	<25	Moderate
24	Tapi	0.101	703	<25	<25	<25	Very Low
25	The Dangs	0.102	176	<25	<25	<25	Very Low
26	Vadodara	0.212	5601	194	76	53	High
27	Valsad	0.172	2562	83	35	<25	Moderate
28	Aravalli	0.224	1920	78	26	<25	Low
29	Botad	0.121	698	<25	<25	<25	Very Low
30	Chota Udepur	<0.10	529	<25	<25	<25	Very Low
31	Devbhoomi Dwarka	0.114	740	<25	<25	<25	Very Low
32	Gir Somnath	<0.10	837	<25	<25	<25	Very Low
33	Mahisagar	<0.10	651	<25	<25	<25	Very Low
34	Morbi	0.156	1309	26	<25	<25	Low

Gujarat

District-wide Map on Key Indicators



Priority Districts



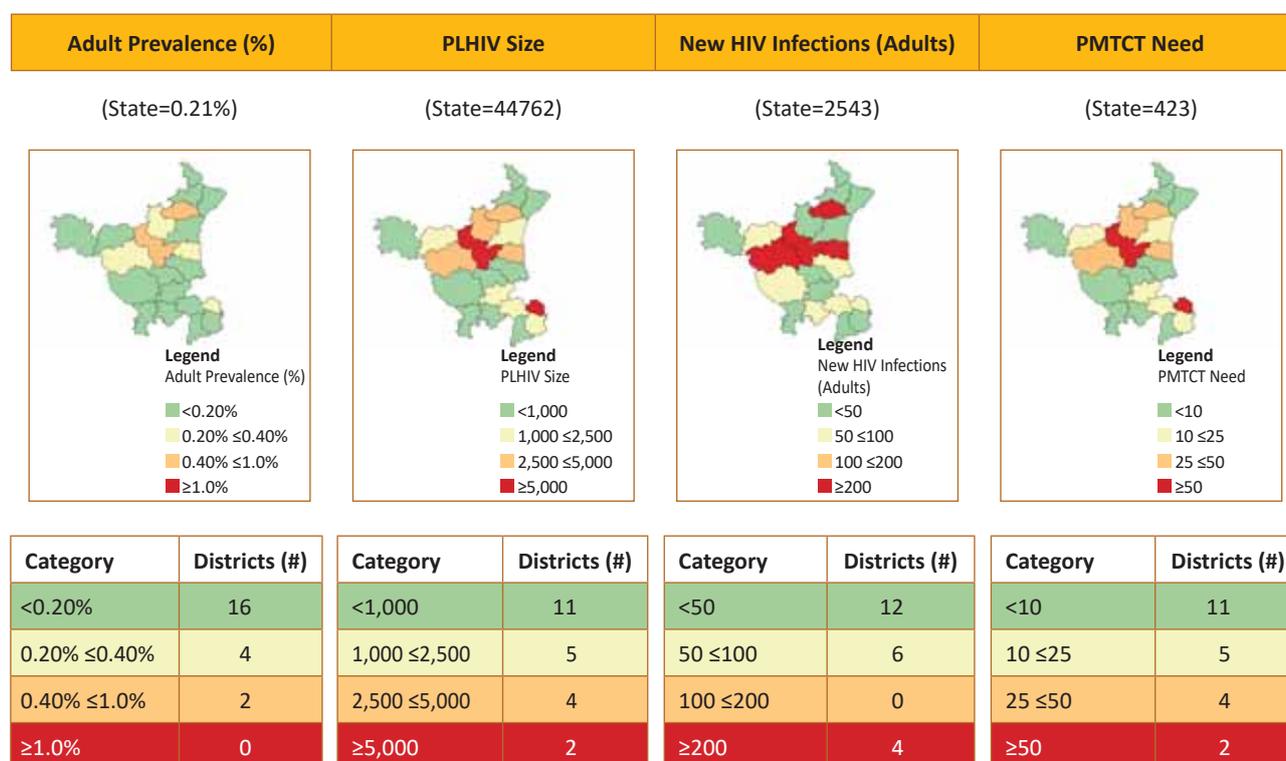
Haryana

District-wide Key Epidemiological Estimates, HIV Estimations 2019

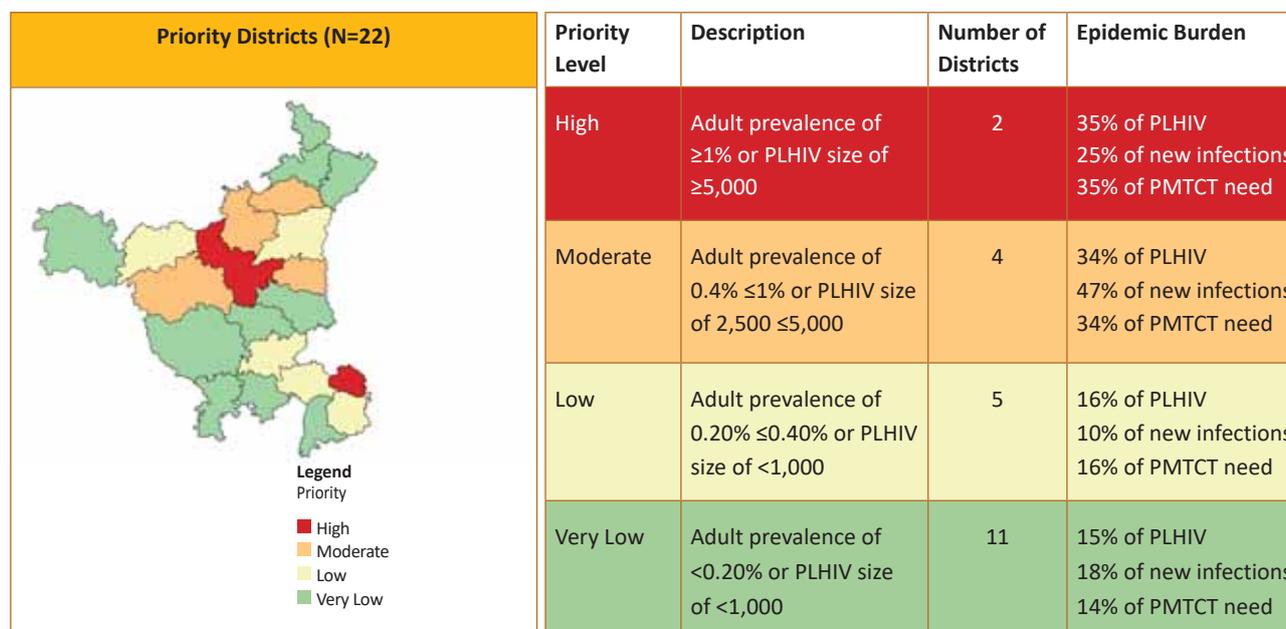
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Ambala	<0.10	682	41	<25	<25	Very Low
2	Bhiwani	<0.10	750	52	32	<25	Very Low
3	Charkhi Dadri	<0.10	171	<25	<25	<25	Very Low
4	Faridabad	0.345	5494	55	227	53	High
5	Fatehabad	0.185	1479	93	65	<25	Low
6	Gurugram	<0.10	1113	70	43	<25	Low
7	Hisar	0.287	4327	213	184	40	Moderate
8	Jhajjar	0.162	1286	50	54	<25	Low
9	Jind	0.917	10309	583	432	97	High
10	Kaithal	0.388	3501	<25	140	34	Moderate
11	Karnal	0.148	1904	<25	76	<25	Low
12	Kurukshetra	0.465	3870	499	162	36	Moderate
13	Mahendragarh	<0.10	274	<25	<25	<25	Very Low
14	Nuh (Mewat)	0.107	783	29	32	<25	Very Low
15	Palwal	0.165	1330	<25	54	<25	Low
16	Panchkula	0.138	653	29	<25	<25	Very Low
17	Panipat	0.359	3672	470	151	34	Moderate
18	Rewari	0.127	950	90	43	<25	Very Low
19	Rohtak	<0.10	444	26	<25	<25	Very Low
20	Sirsa	<0.10	366	50	<25	<25	Very Low
21	Sonipat	<0.10	804	85	32	<25	Very Low
22	Yamunanagar	<0.10	601	32	<25	<25	Very Low

Haryana

District-wide Map on Key Indicators



Priority Districts



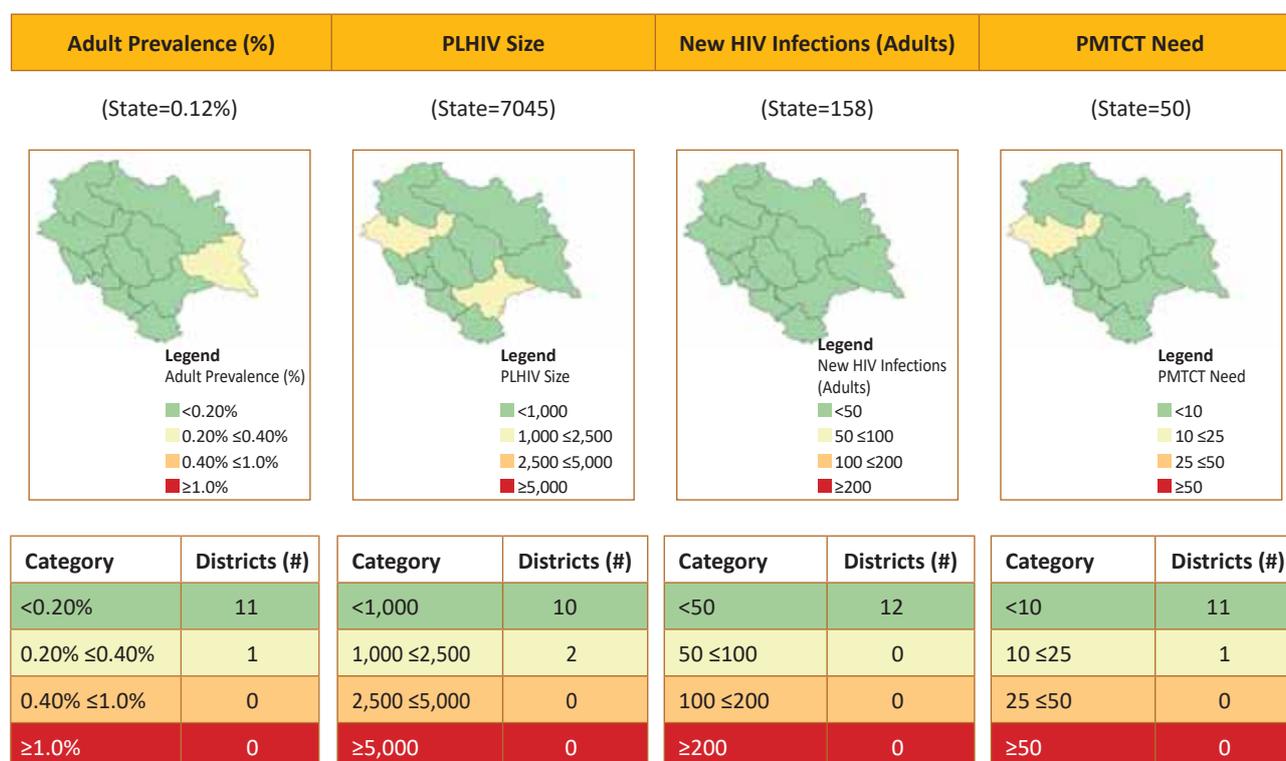
Himachal Pradesh

District-wide Key Epidemiological Estimates, HIV Estimations 2019

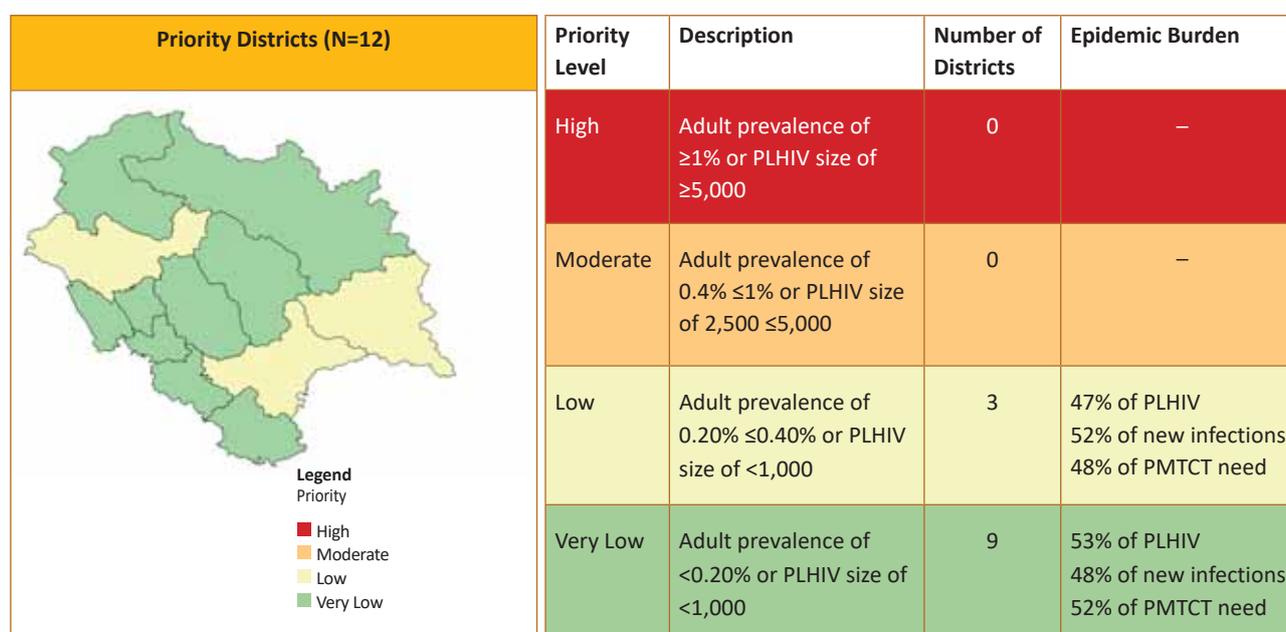
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Bilaspur	<0.10	146	<25	<25	<25	Very Low
2	Chamba	<0.10	172	<25	<25	<25	Very Low
3	Hamirpur	0.185	678	<25	<25	<25	Very Low
4	Kangra	0.150	1898	41	<25	<25	Low
5	Kinnaur	0.265	209	<25	<25	<25	Low
6	Kullu	0.141	538	<25	<25	<25	Very Low
7	Lahaul and Spiti	<0.10	<100	<25	<25	<25	Very Low
8	Mandi	<0.10	507	<25	<25	<25	Very Low
9	Shimla	0.167	1225	29	<25	<25	Low
10	Sirmaur	<0.10	303	<25	<25	<25	Very Low
11	Solan	<0.10	512	<25	<25	<25	Very Low
12	Una	0.189	830	<25	<25	<25	Very Low

Himachal Pradesh

District-wide Map on Key Indicators



Priority Districts



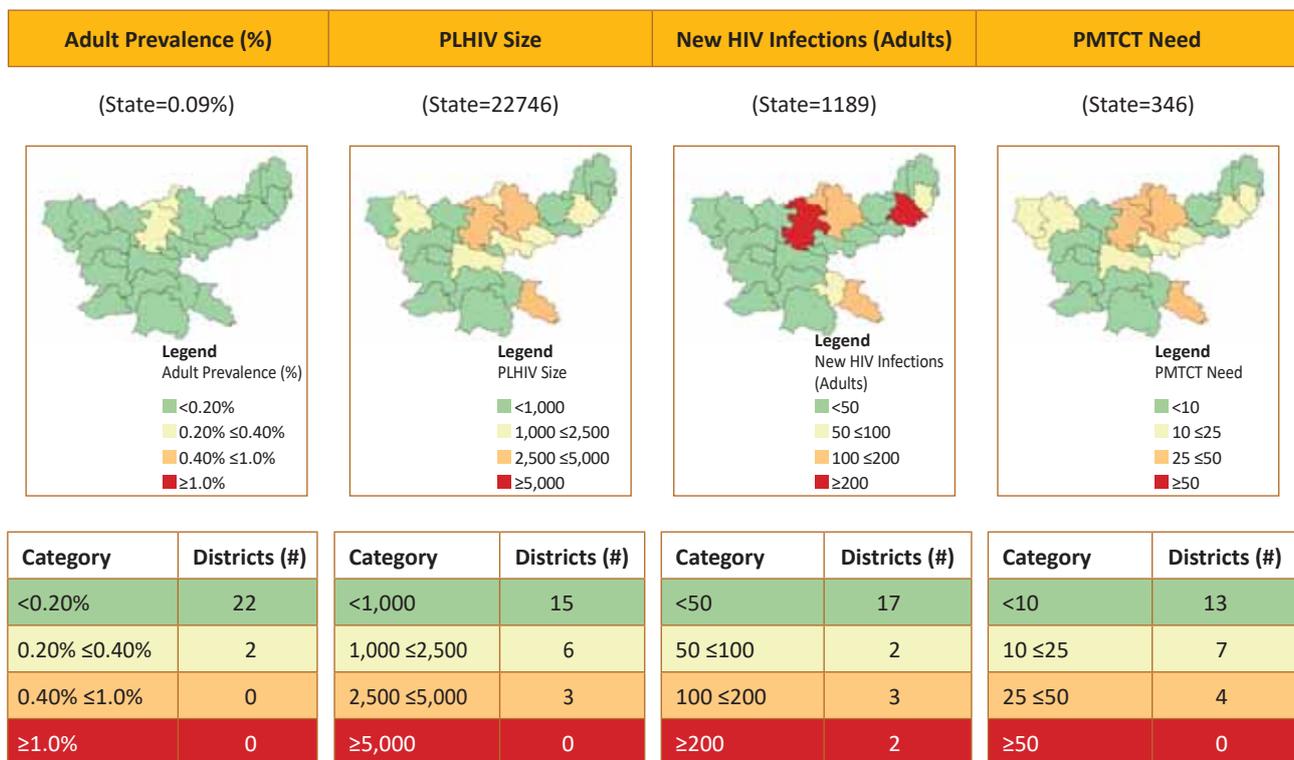
Jharkhand

District-wide Key Epidemiological Estimates, HIV Estimations 2019

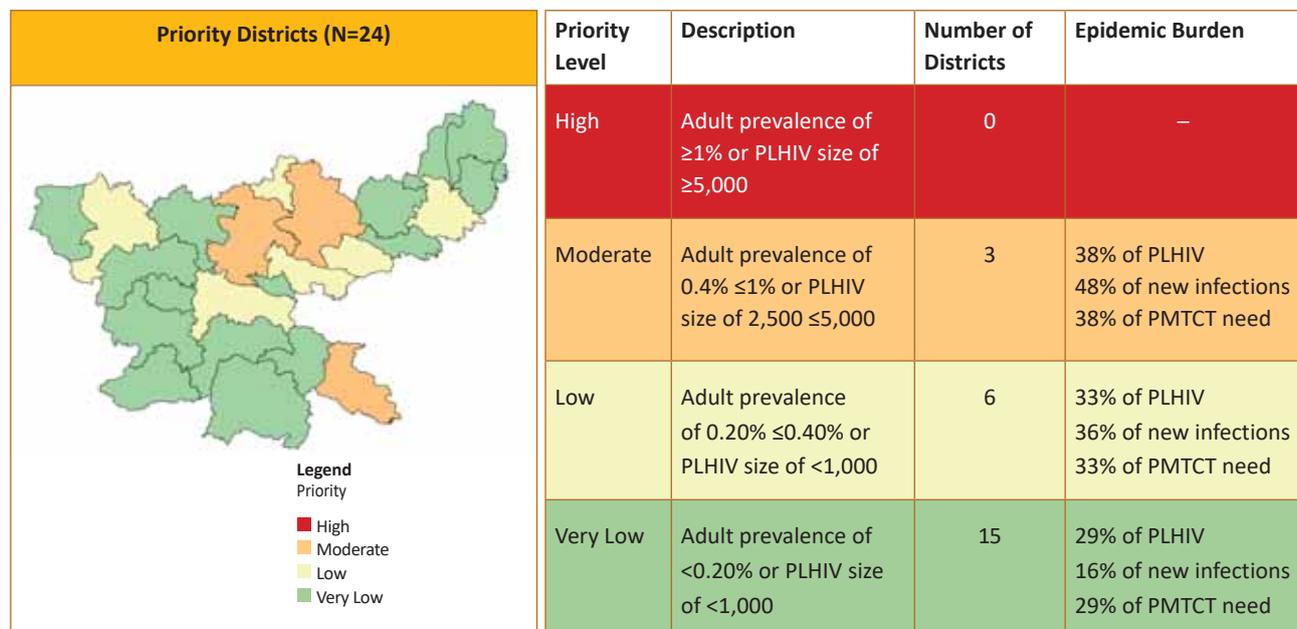
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Bokaro	<0.10	1017	<25	<25	<25	Low
2	Chatra	<0.10	577	30	<25	<25	Very Low
3	Deoghar	<0.10	487	<25	<25	<25	Very Low
4	Dhanbad	<0.10	1338	<25	<25	<25	Low
5	Dumka	0.150	1479	218	<25	<25	Low
6	Garhwa	<0.10	864	33	<25	<25	Very Low
7	Giridih	0.163	3081	180	49	47	Moderate
8	Godda	<0.10	635	<25	<25	<25	Very Low
9	Gumla	<0.10	313	<25	<25	<25	Very Low
10	Hazaribagh	0.225	3040	252	48	46	Moderate
11	Jamtara	<0.10	191	<25	<25	<25	Very Low
12	Kodarma	0.300	1641	148	26	25	Low
13	Lohardaga	<0.10	169	<25	<25	<25	Very Low
14	Pakur	0.124	857	60	<25	<25	Very Low
15	Palamu	<0.10	1046	25	<25	<25	Low
16	Pashchimi Singhbhum	<0.10	647	<25	<25	<25	Very Low
17	Purbi Singhbhum	0.150	2552	144	41	39	Moderate
18	Ramgarh	<0.10	328	<25	<25	<25	Very Low
19	Ranchi	<0.10	1022	<25	<25	<25	Low
20	Sahibganj	<0.10	419	<25	<25	<25	Very Low
21	Saraikela Kharsawan	<0.10	335	51	<25	<25	Very Low
22	Simdega	<0.10	207	<25	<25	<25	Very Low
23	Khunti	<0.10	257	<25	<25	<25	Very Low
24	Latehar	<0.10	245	<25	<25	<25	Very Low

Jharkhand

District-wide Map on Key Indicators



Priority Districts



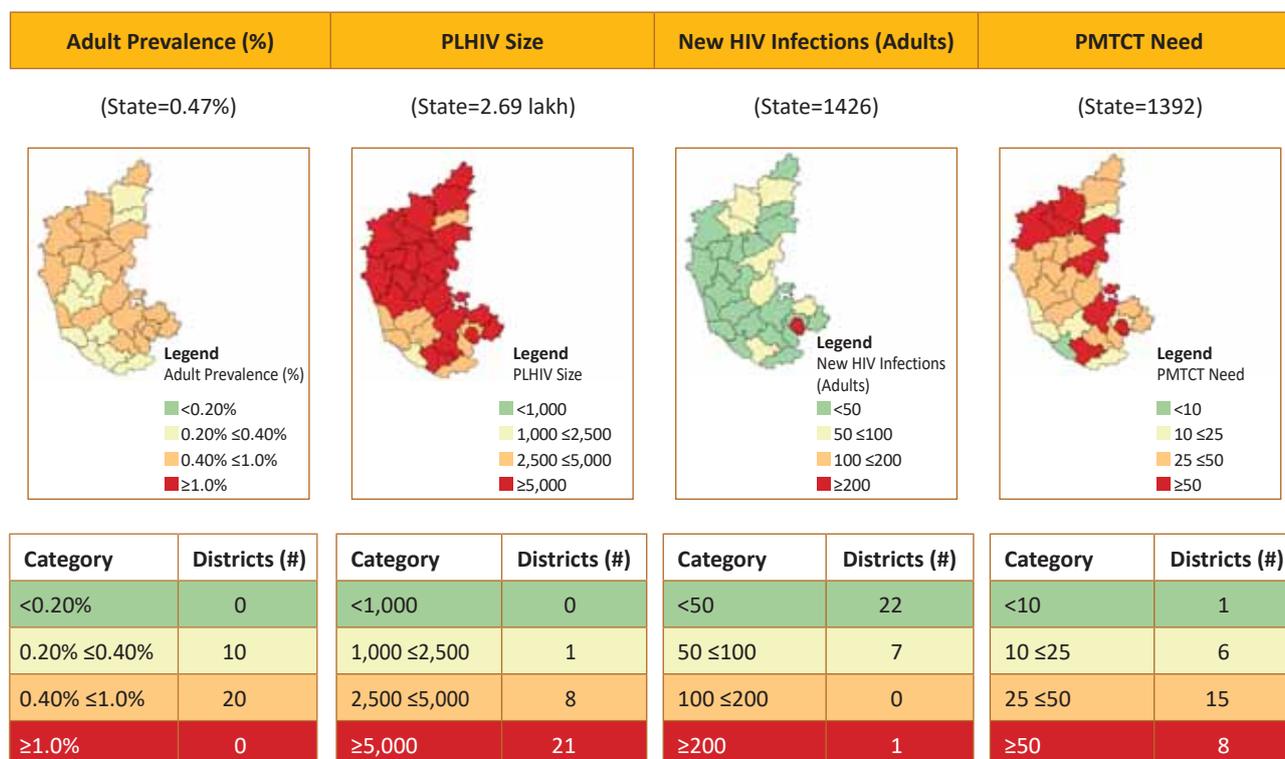
Karnataka

District-wide Key Epidemiological Estimates, HIV Estimations 2019

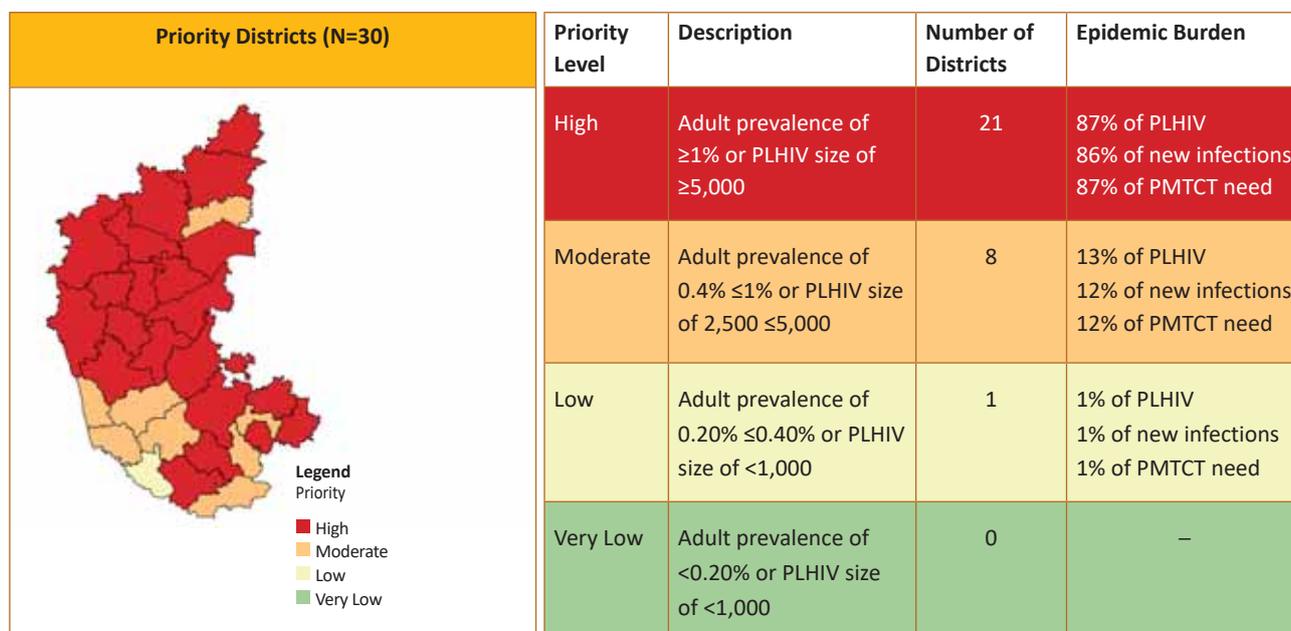
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Bagalkot	0.896	16032	64	361	83	High
2	Bengaluru Rural	0.433	4050	<25	103	<25	Moderate
3	Bengaluru	0.468	44650	358	980	230	High
4	Belgaum	0.614	27160	33	619	141	High
5	Bellary	0.483	11470	84	258	60	High
6	Bidar	0.443	7254	<25	155	38	High
7	Bijapur	0.596	12230	67	258	63	High
8	Chamarajanagar	0.379	3518	27	103	<25	Moderate
9	Chikkaballapura	0.678	7873	96	155	40	High
10	Chikmagalur	0.464	4714	<25	103	25	Moderate
11	Chitradurga	0.418	6348	76	155	34	High
12	Dakshina Kannada	0.224	4292	33	103	<25	Moderate
13	Davanagere	0.337	6172	41	155	31	High
14	Dharwad	0.540	9248	40	206	47	High
15	Gadag	0.564	5578	36	103	29	High
16	Gulbarga	0.286	7178	51	155	38	High
17	Hassan	0.286	4503	29	103	<25	Moderate
18	Haveri	0.389	5813	28	155	29	High
19	Kodagu	0.395	1932	<25	52	<25	Low
20	Kolar	0.490	7098	35	155	36	High
21	Koppal	0.596	8156	<25	206	42	High
22	Mandya	0.432	6964	<25	155	36	High
23	Mysore	0.381	10627	68	258	56	High
24	Raichur	0.628	12037	<25	258	63	High
25	Ramanagara	0.468	4565	<25	103	25	Moderate
26	Shimoga	0.350	5502	49	103	29	High
27	Tumkur	0.454	10755	28	258	56	High
28	Udupi	0.413	4195	<25	103	<25	Moderate
29	Uttara Kannada	0.439	5599	28	155	29	High
30	Yadgir	0.344	3957	28	103	<25	Moderate

Karnataka

District-wide Map on Key Indicators



Priority Districts



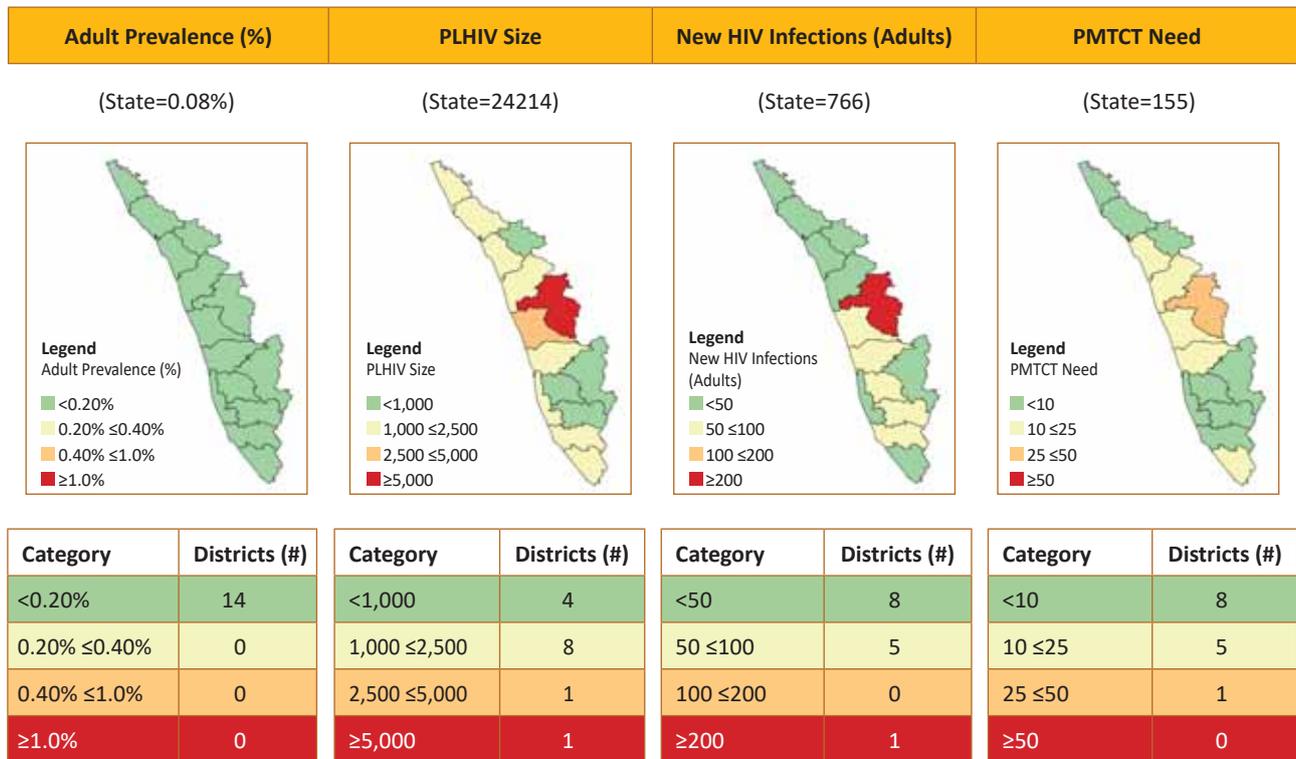
Kerala

District-wide Key Epidemiological Estimates, HIV Estimations 2019

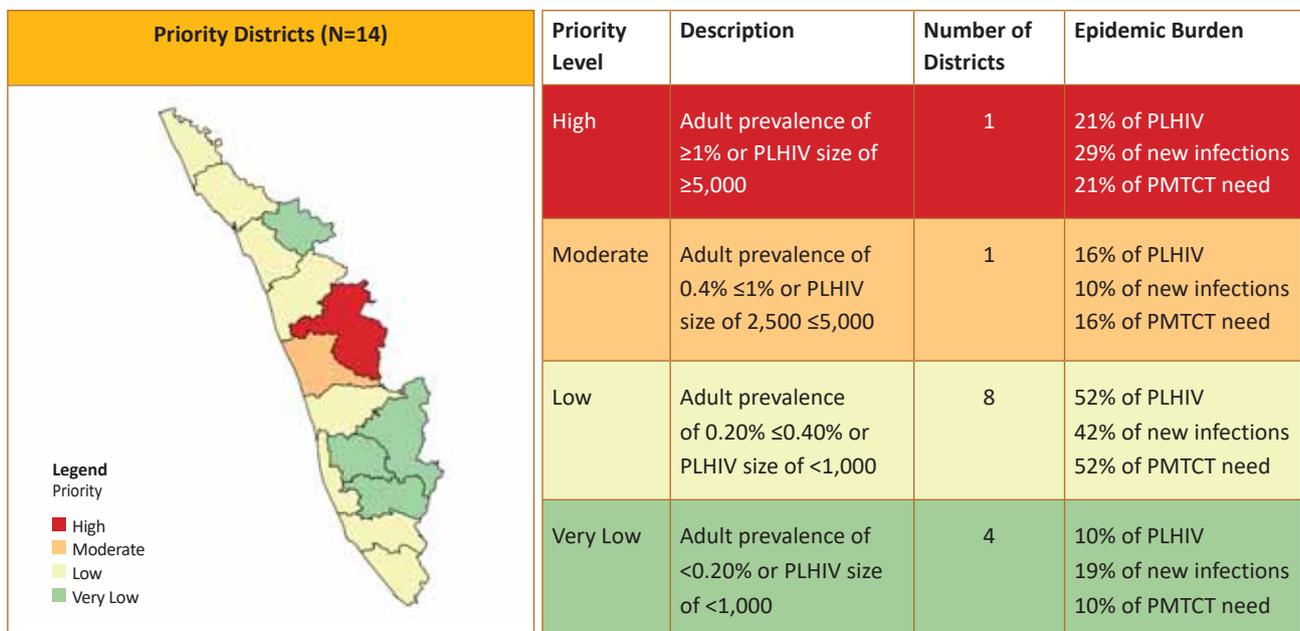
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Alappuzha	<0.10	1104	35	<25	<25	Low
2	Ernakulam	<0.10	1932	87	39	<25	Low
3	Idukki	<0.10	531	<25	<25	<25	Very Low
4	Kannur	<0.10	1279	<25	26	<25	Low
5	Kasaragod	<0.10	1237	<25	<25	<25	Low
6	Kollam	<0.10	1356	60	27	<25	Low
7	Kottayam	<0.10	544	65	<25	<25	Very Low
8	Kozhikode	<0.10	1755	46	35	<25	Low
9	Malappuram	<0.10	2296	33	47	<25	Low
10	Palakkad	0.195	5174	221	105	33	High
11	Pathanamthitta	<0.10	950	74	<25	<25	Very Low
12	Thiruvananthapuram	<0.10	1745	35	35	<25	Low
13	Thrissur	0.141	3831	79	78	<25	Moderate
14	Wayanad	<0.10	479	<25	<25	<25	Very Low

Kerala

District-wide Map on Key Indicators



Priority Districts



Madhya Pradesh

District-wide Key Epidemiological Estimates, HIV Estimations 2019

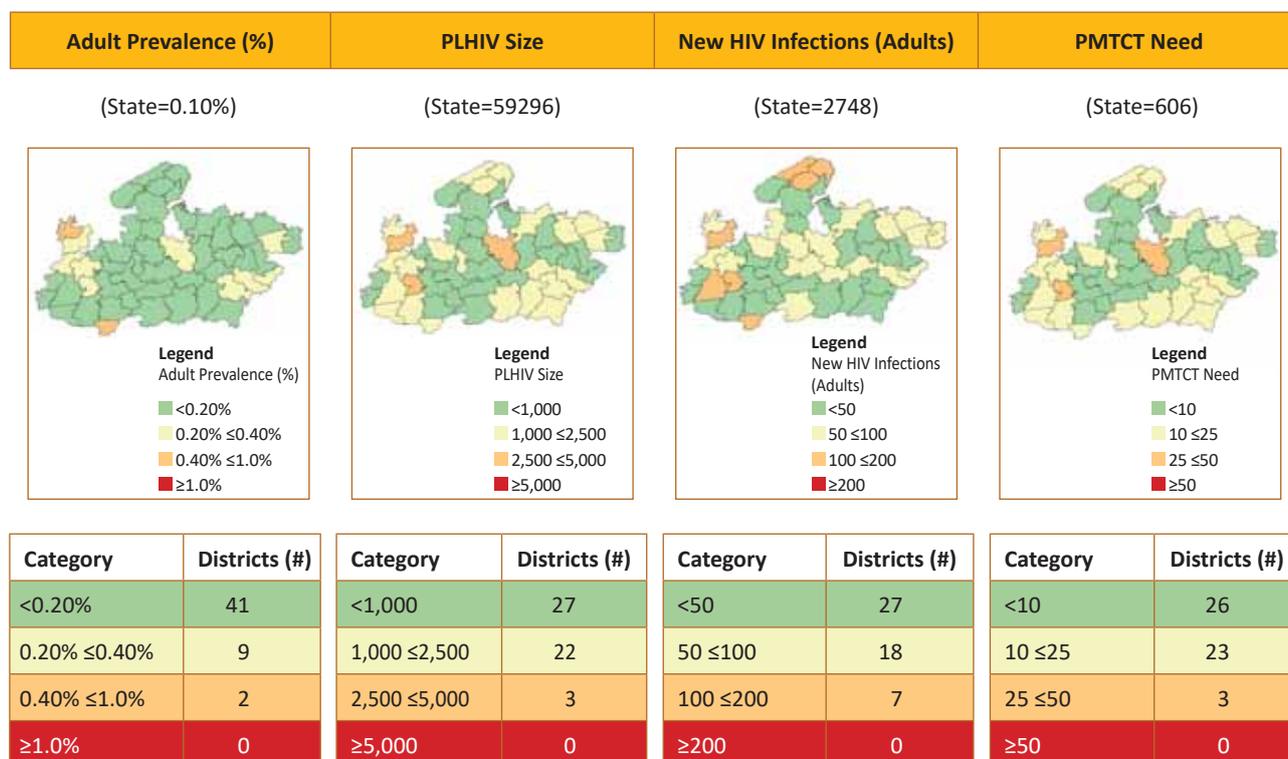
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Alirajpur	<0.10	287	<25	<25	<25	Very Low
2	Anuppur	0.204	816	73	<25	<25	Low
3	Ashoknagar	0.119	553	43	<25	<25	Very Low
4	Balaghat	0.142	1271	<25	36	<25	Low
5	Barwani	0.151	1156	30	33	<25	Low
6	Betul	0.115	974	56	28	<25	Very Low
7	Bhind	0.147	1355	120	39	<25	Low
8	Bhopal	<0.10	1122	<25	33	<25	Low
9	Burhanpur	0.539	2193	104	62	<25	Moderate
10	Chhatarpur	0.117	1130	98	32	<25	Low
11	Chhindwara	0.102	1147	<25	32	<25	Low
12	Damoh	0.100	685	42	<25	<25	Very Low
13	Datia	<0.10	381	<25	<25	<25	Very Low
14	Dewas	<0.10	638	<25	<25	<25	Very Low
15	Dhar	0.164	1972	149	56	<25	Low
16	Dindori	0.270	1005	87	28	<25	Low
17	Guna	0.126	862	65	<25	<25	Very Low
18	Gwalior	0.146	1644	157	47	<25	Low
19	Harda	<0.10	298	<25	<25	<25	Very Low
20	Hoshangabad	<0.10	675	<25	<25	<25	Very Low
21	Indore	0.233	4118	123	118	42	Moderate
22	Jabalpur	0.181	2402	76	69	<25	Low
23	Jhabua	<0.10	526	35	<25	<25	Very Low
24	Katni	<0.10	437	29	<25	<25	Very Low
25	Khandwa (East Nimar)	0.134	947	<25	27	<25	Very Low
26	Khargone (West Nimar)	0.124	1262	<25	36	<25	Low
27	Mandla	0.283	1570	47	45	<25	Low
28	Mandsaur	0.366	2622	103	75	27	Moderate
29	Morena	0.118	1294	112	37	<25	Low
30	Narsinghpur	0.156	897	64	26	<25	Very Low
31	Neemuch	0.470	2069	69	59	<25	Moderate

Madhya Pradesh

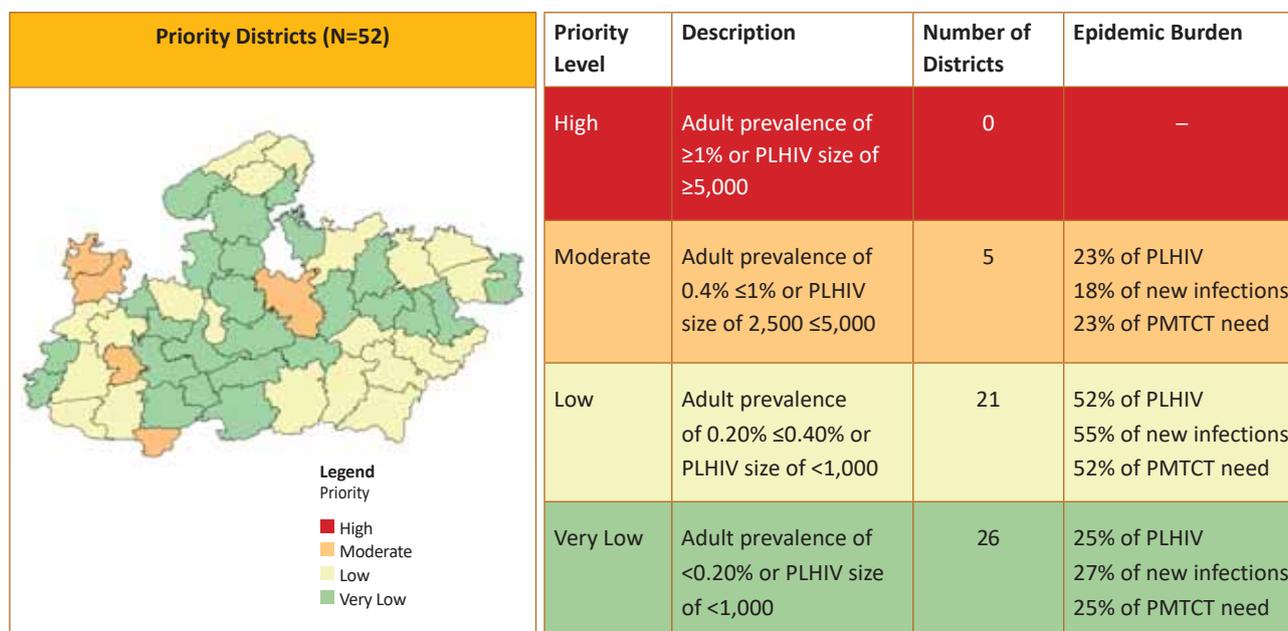
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
32	Panna	<0.10	273	<25	<25	<25	Very Low
33	Raisen	0.116	861	70	25	<25	Very Low
34	Rajgarh	0.160	1320	96	38	<25	Low
35	Ratlam	0.295	2307	79	66	<25	Low
36	Rewa	0.174	2243	54	65	<25	Low
37	Sagar	0.199	2586	89	74	26	Moderate
38	Satna	0.105	1272	98	36	<25	Low
39	Sehore	<0.10	700	26	<25	<25	Very Low
40	Seoni	0.157	1160	45	33	<25	Low
41	Shahdol	<0.10	510	<25	<25	<25	Very Low
42	Shajapur	0.113	565	<25	<25	<25	Very Low
43	Sheopur	0.113	437	32	<25	<25	Very Low
44	Shivpuri	<0.10	943	33	27	<25	Very Low
45	Sidhi	0.221	1362	98	39	<25	Low
46	Singrauli	0.127	827	64	<25	<25	Very Low
47	Tikamgarh	<0.10	229	<25	<25	<25	Very Low
48	Ujjain	0.211	2229	54	64	<25	Low
49	Umria	<0.10	147	<25	<25	<25	Very Low
50	Vidisha	<0.10	725	58	<25	<25	Very Low
51	Agar Malwa	<0.10	224	<25	<25	<25	Very Low
52	Niwari	<0.10	<100	<25	<25	<25	Very Low

Madhya Pradesh

District-wide Map on Key Indicators



Priority Districts



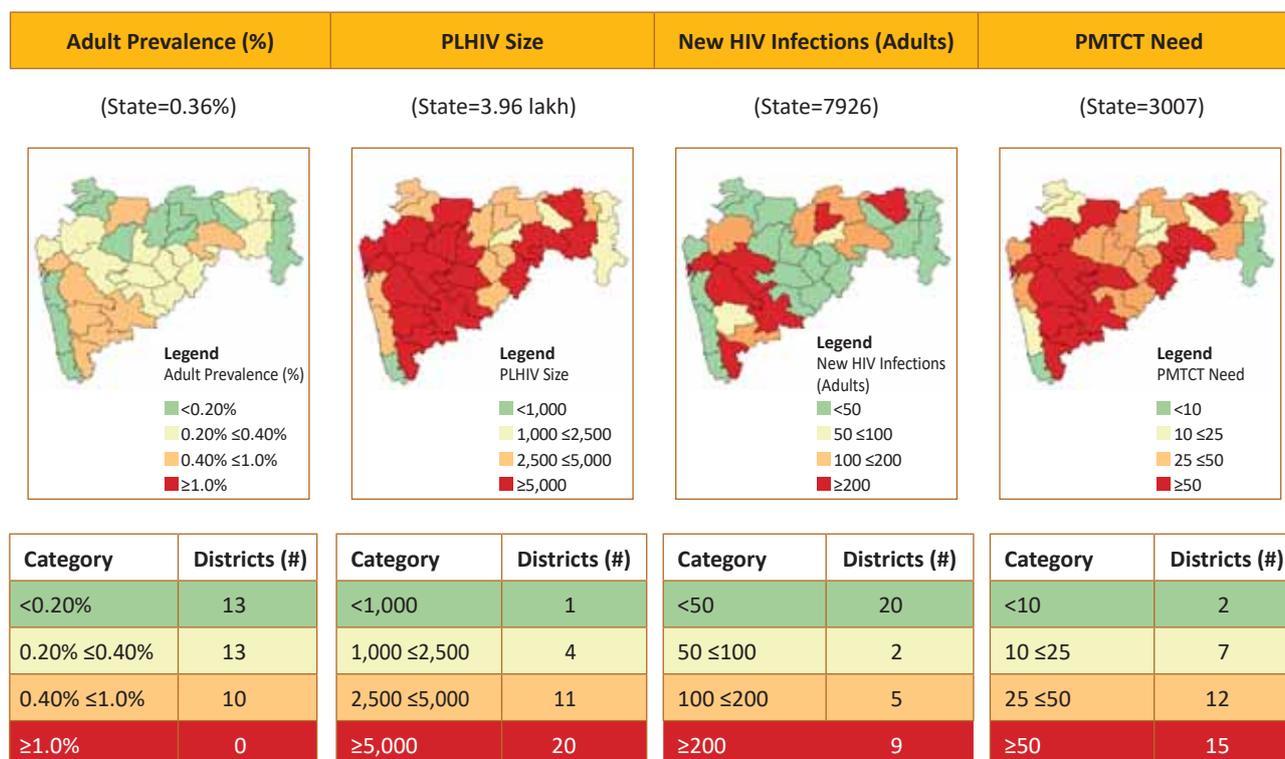
Maharashtra

District-wide Key Epidemiological Estimates, HIV Estimations 2019

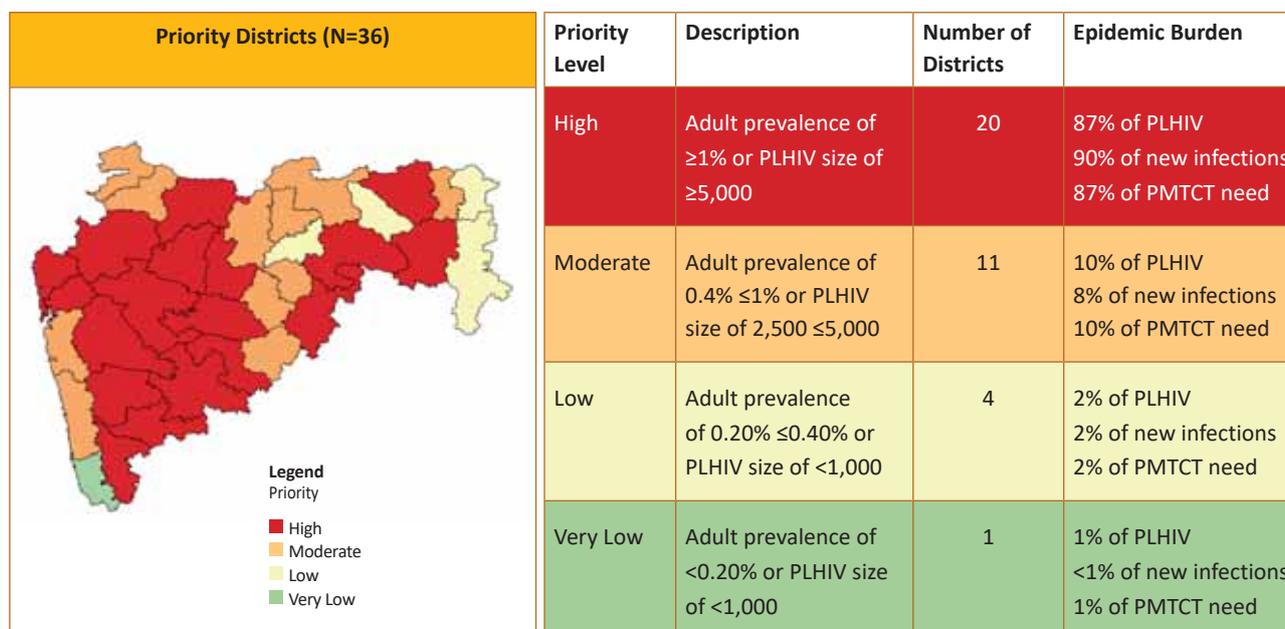
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Ahmednagar	0.336	13853	207	318	105	High
2	Akola	0.175	2904	260	66	<25	Moderate
3	Amravati	0.187	4890	128	113	37	Moderate
4	Aurangabad	0.166	5963	<25	139	46	High
5	Beed	0.323	7642	<25	177	57	High
6	Bhandara	0.341	3685	<25	84	29	Moderate
7	Buldhana	0.142	3347	128	75	25	Moderate
8	Chandrapur	0.284	5748	48	132	44	High
9	Dhule	0.146	2790	<25	64	<25	Moderate
10	Gadchiroli	0.104	1059	<25	<25	<25	Low
11	Gondia	0.168	2023	<25	46	<25	Low
12	Hingoli	0.315	3493	<25	79	27	Moderate
13	Jalgaon	0.402	15689	<25	364	118	High
14	Jalna	0.289	5277	<25	121	41	High
15	Kolhapur	0.513	17569	410	406	133	High
16	Latur	0.205	4773	<25	113	35	Moderate
17	Mumbai City	0.699	19810	775	457	150	High
18	Mumbai suburban	0.643	56816	2585	1311	431	High
19	Nagpur	0.341	14615	273	333	111	High
20	Nanded	0.206	6699	<25	154	51	High
21	Nandurbar	0.172	2766	<25	66	<25	Moderate
22	Nashik	0.284	16641	110	384	127	High
23	Osmanabad	0.366	5460	<25	126	42	High
24	Parbhani	0.278	4824	<25	113	37	Moderate
25	Pune	0.526	48098	1634	1158	365	High
26	Raigad	0.186	4503	48	101	34	Moderate
27	Ratnagiri	0.185	2506	<25	60	<25	Moderate
28	Sangli	0.676	16807	176	391	128	High
29	Satara	0.559	14566	62	338	110	High
30	Sindhudurg	0.131	893	<25	<25	<25	Very Low
31	Solapur	0.423	16746	502	386	127	High
32	Thane	0.461	42728	211	993	324	High
33	Wardha	0.192	2196	<25	51	<25	Low
34	Washim	0.170	1857	92	42	<25	Low
35	Yavatmal	0.461	11966	119	276	91	High
36	Palghar	0.343	5147	<25	119	39	High

Maharashtra

District-wide Map on Key Indicators



Priority Districts



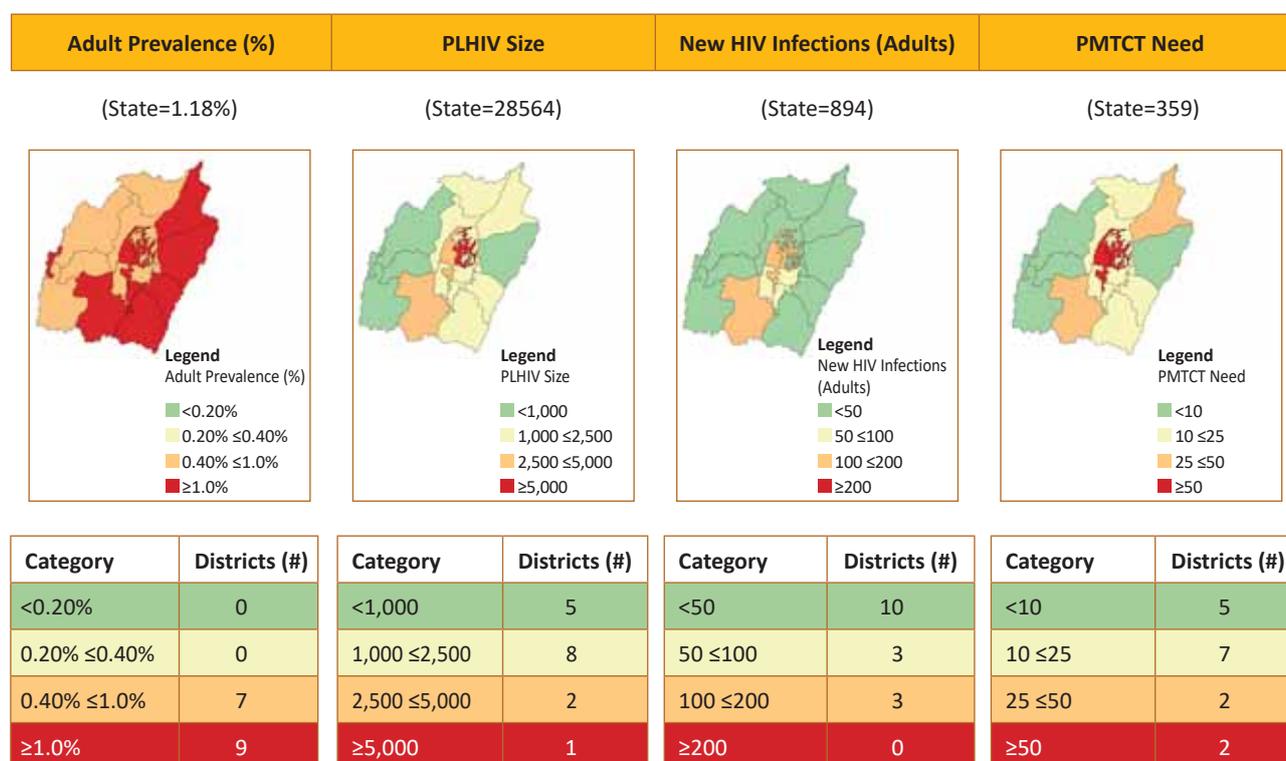
Manipur

District-wide Key Epidemiological Estimates, HIV Estimations 2019

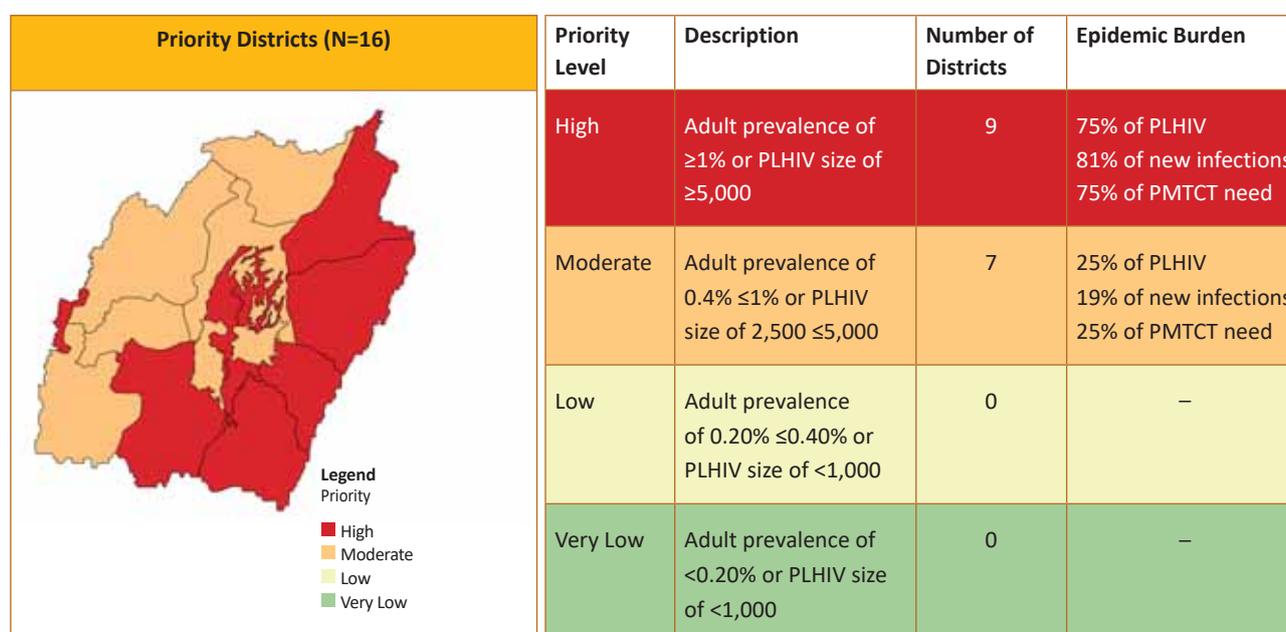
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Bishnupur	0.927	1734	59	63	<25	Moderate
2	Chandel	1.705	1544	38	52	<25	High
3	Churachandpur	1.705	3630	187	125	46	High
4	Imphal East	1.705	5597	198	198	70	High
5	Imphal West	1.073	4245	171	153	53	High
6	Jiribam	1.705	641	<25	<25	<25	High
7	Kakching	1.286	1351	63	49	<25	High
8	Kamjong	1.674	693	<25	<25	<25	High
9	Kangpokpi	0.626	1151	<25	38	<25	Moderate
10	Noney	0.733	239	<25	<25	<25	Moderate
11	Pherzawl	0.643	279	<25	<25	<25	Moderate
12	Senapati	0.454	1230	<25	42	<25	Moderate
13	Tamenglong	0.728	690	<25	<25	<25	Moderate
14	Tengnoupal	3.410	1531	46	52	<25	High
15	Thoubal	0.798	1798	75	66	<25	Moderate
16	Ukhrul	1.705	2209	<25	73	27	High

Manipur

District-wide Map on Key Indicators



Priority Districts



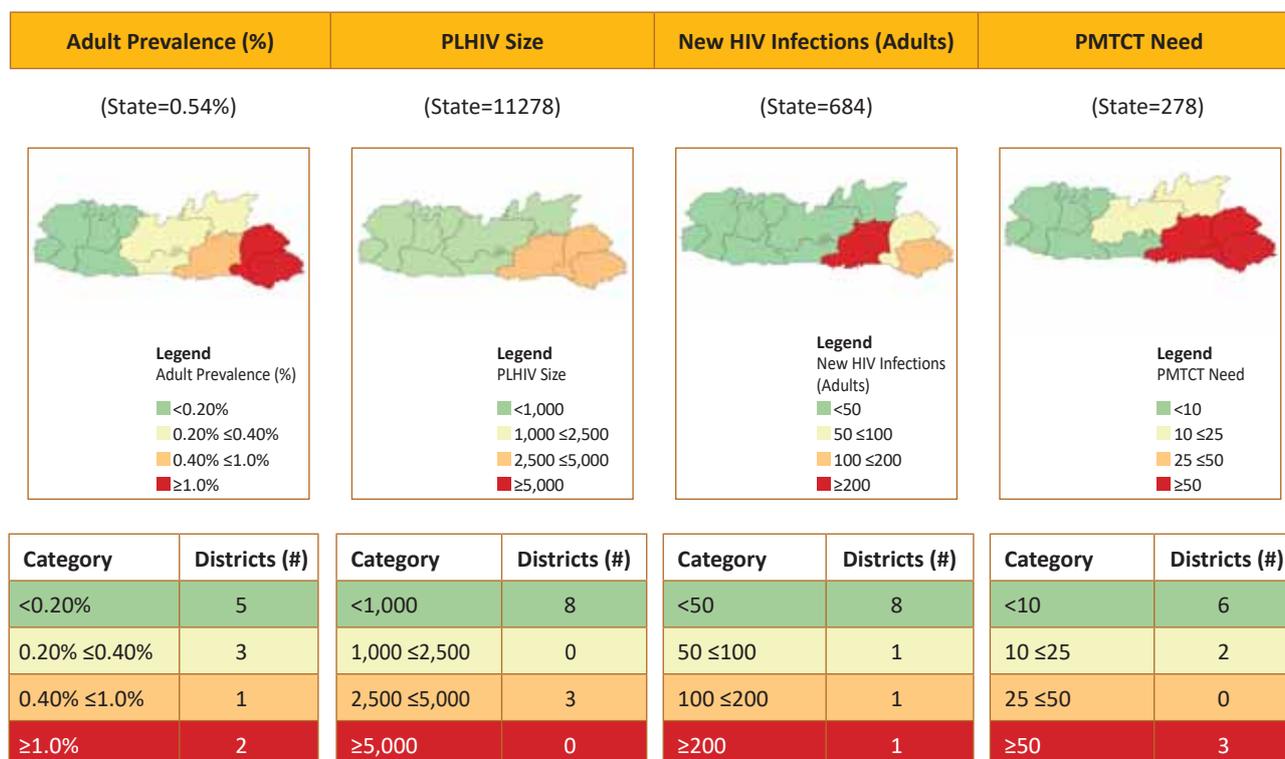
Meghalaya

District-wide Key Epidemiological Estimates, HIV Estimations 2019

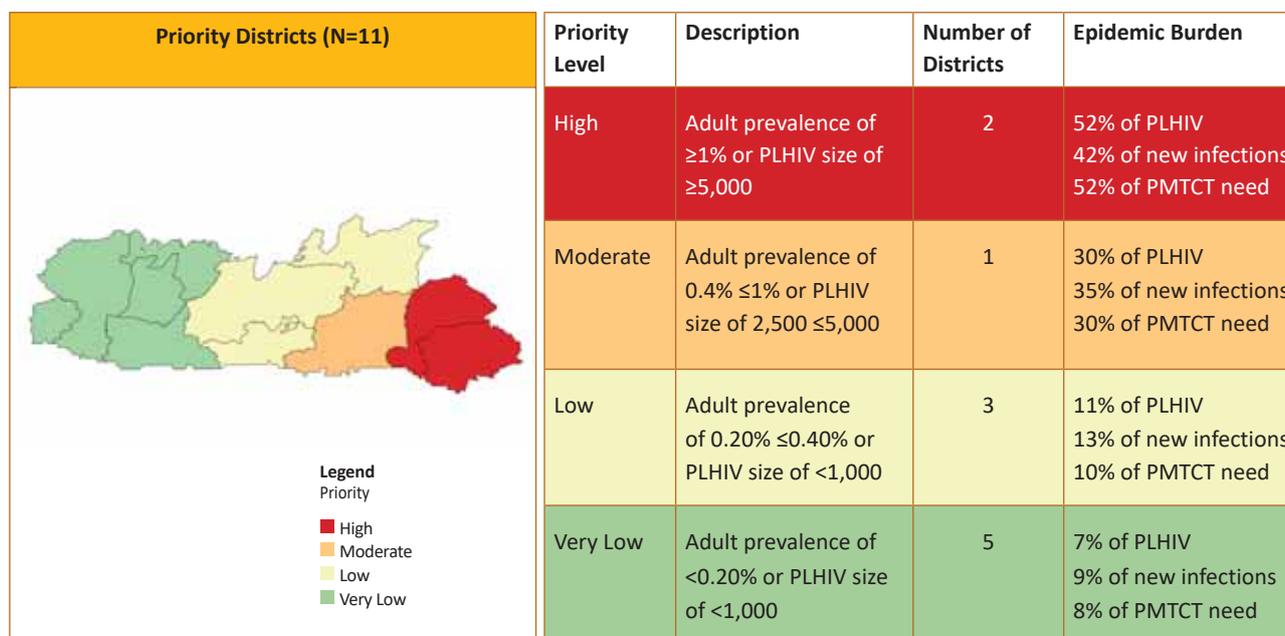
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	East Garo Hills	0.199	249	<25	<25	<25	Very Low
2	East Jaintia Hills	2.806	2593	192	69	64	High
3	East Khasi Hills	0.651	3379	242	90	83	Moderate
4	North Garo Hills	0.145	108	<25	<25	<25	Very Low
5	Ri Bhoi	0.332	540	37	<25	<25	Low
6	South Garo Hills	0.199	172	<25	<25	<25	Very Low
7	South West Garo Hills	<0.10	<100	<25	<25	<25	Very Low
8	South West Khasi Hills	0.305	210	<25	<25	<25	Low
9	West Garo Hills	<0.10	242	<25	<25	<25	Very Low
10	West Jaintia Hills	1.403	3264	97	88	81	High
11	West Khasi Hills	0.260	444	37	<25	<25	Low

Meghalaya

District-wide Map on Key Indicators



Priority Districts



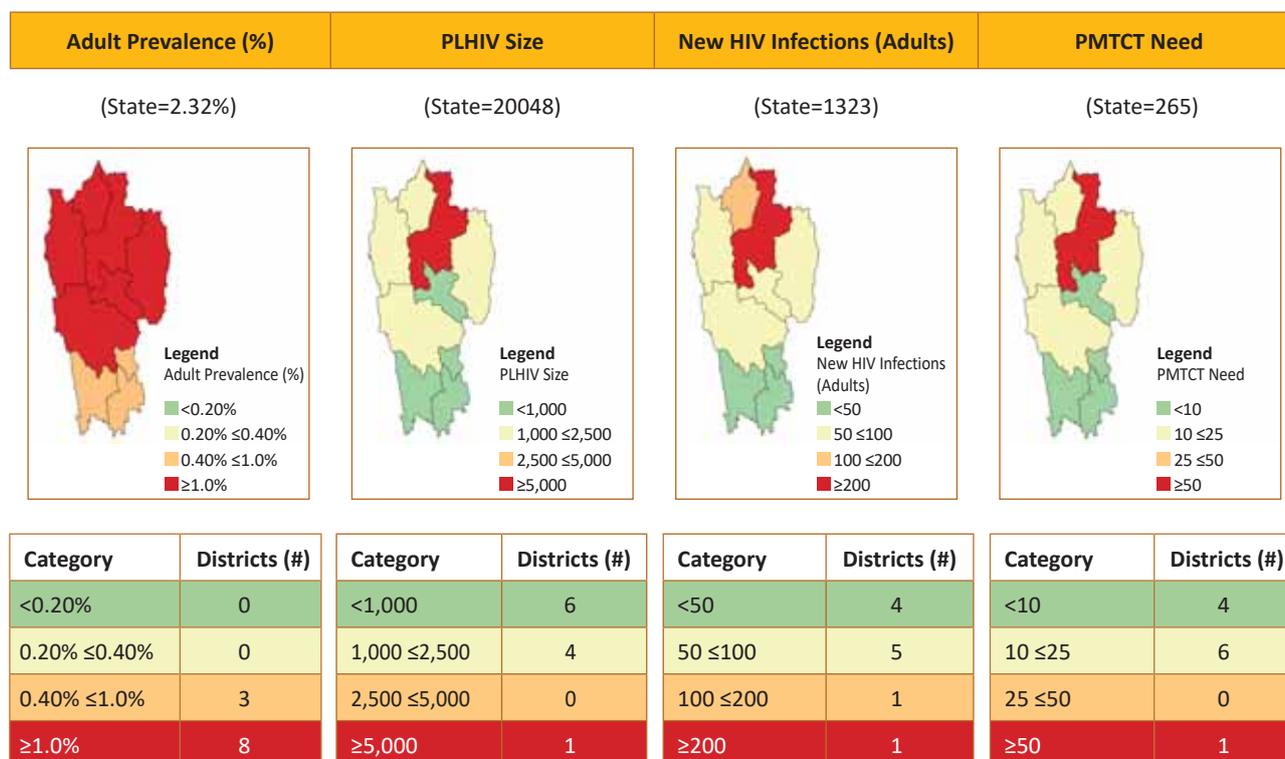
Mizoram

District-wide Key Epidemiological Estimates, HIV Estimations 2019

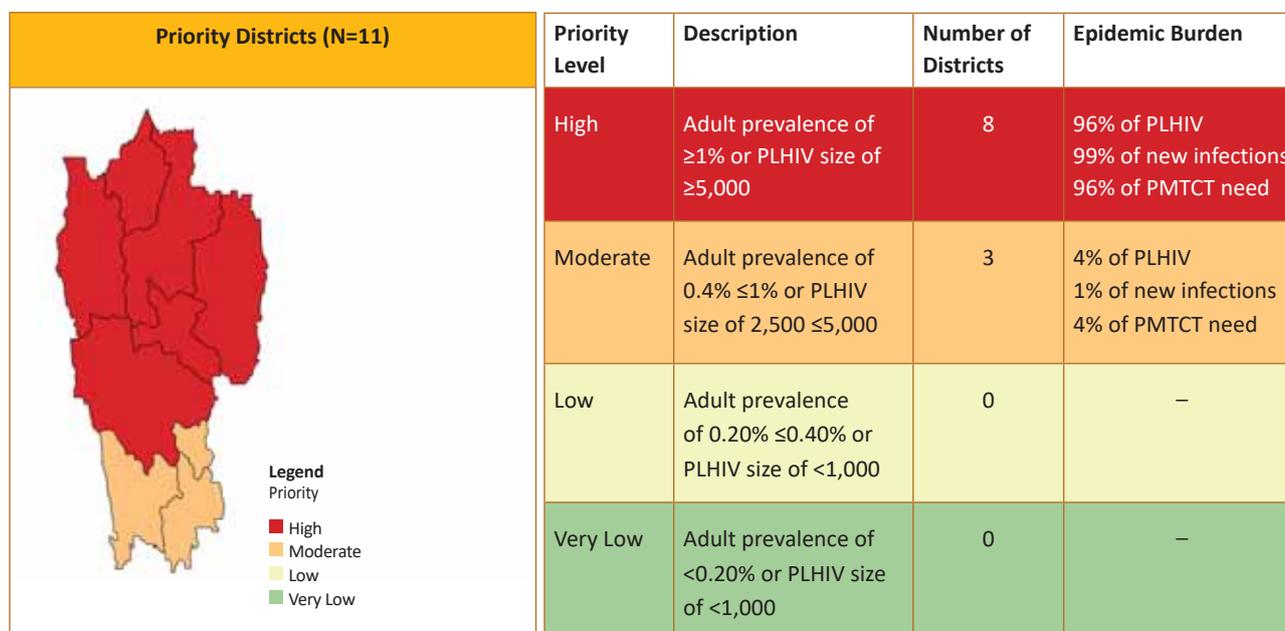
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Aizawl	3.993	11413	703	162	151	High
2	Champhai	2.513	1363	93	<25	<25	High
3	Kolasib	2.273	1504	170	<25	<25	High
4	Lawngtlai	0.457	457	<25	<25	<25	Moderate
5	Lunglei	1.395	1517	82	<25	<25	High
6	Mamit	1.732	1177	82	<25	<25	High
7	Saiha	0.565	270	<25	<25	<25	Moderate
8	Serchhip	1.251	667	61	<25	<25	High
9	Hnahthial	0.529	124	<25	<25	<25	Moderate
10	Khawzawl	2.910	806	55	<25	<25	High
11	Saitual	1.876	751	43	<25	<25	High

Mizoram

District-wide Map on Key Indicators



Priority Districts



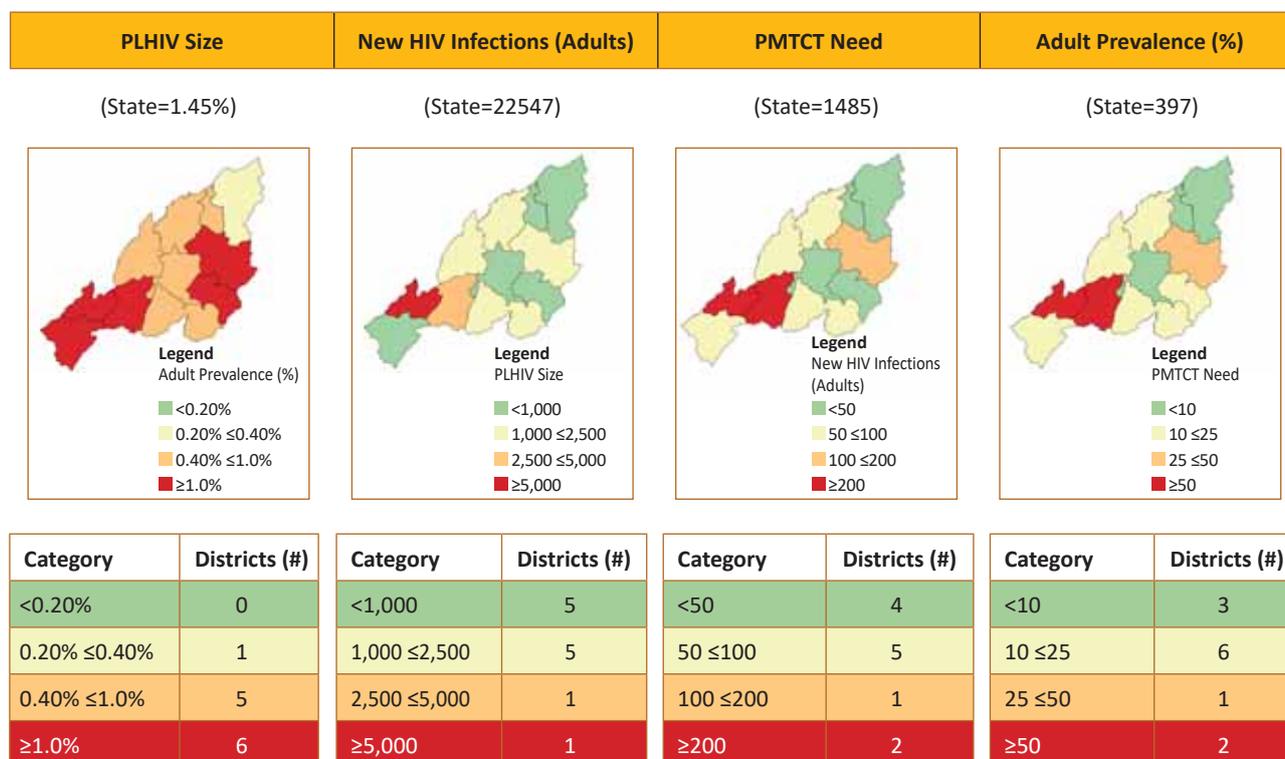
Nagaland

District-wide Key Epidemiological Estimates, HIV Estimations 2019

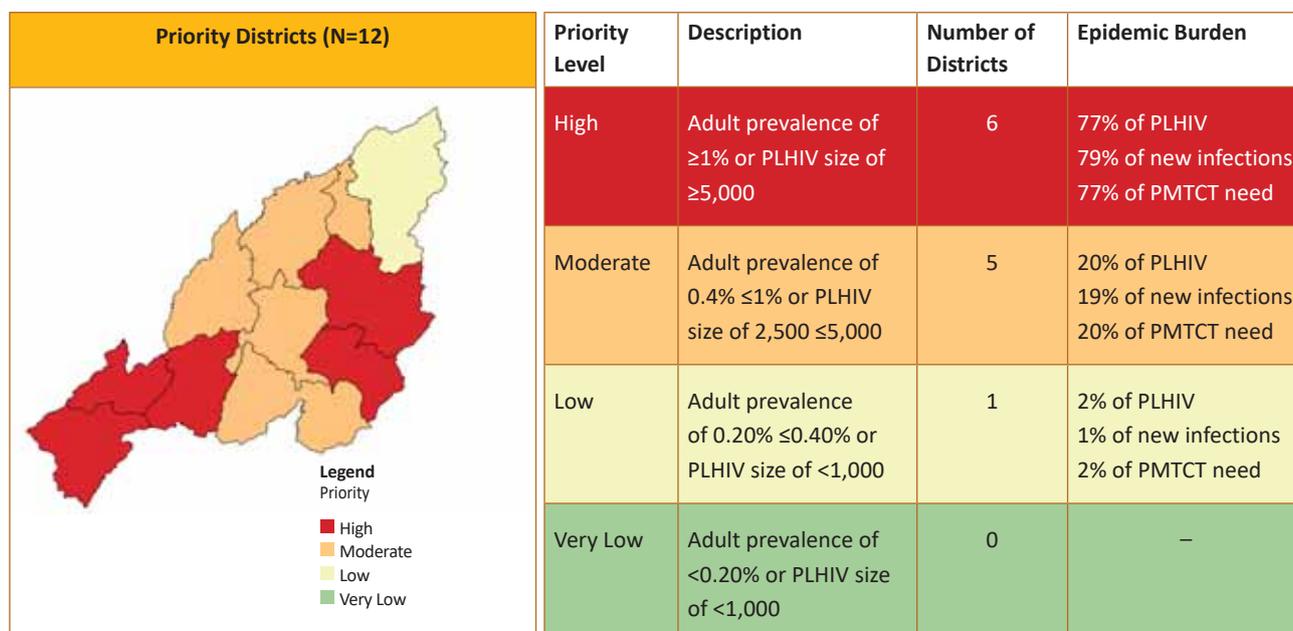
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Dimapur	3.186	9662	715	214	170	High
2	Kiphire	1.169	685	37	<25	<25	High
3	Kohima	1.432	3093	201	69	54	High
4	Longleng	0.427	168	<25	<25	<25	Moderate
5	Mokokchung	0.952	1383	90	31	<25	Moderate
6	Mon	0.262	510	<25	<25	<25	Low
7	Noklak	2.578	1197	72	27	<25	High
8	Peren	1.057	800	51	<25	<25	High
9	Phek	0.959	1219	67	27	<25	Moderate
10	Tuensang	1.881	2023	103	45	35	High
11	Wokha	0.959	1271	82	28	<25	Moderate
12	Zunheboto	0.487	535	28	<25	<25	Moderate

Nagaland

District-wide Map on Key Indicators



Priority Districts



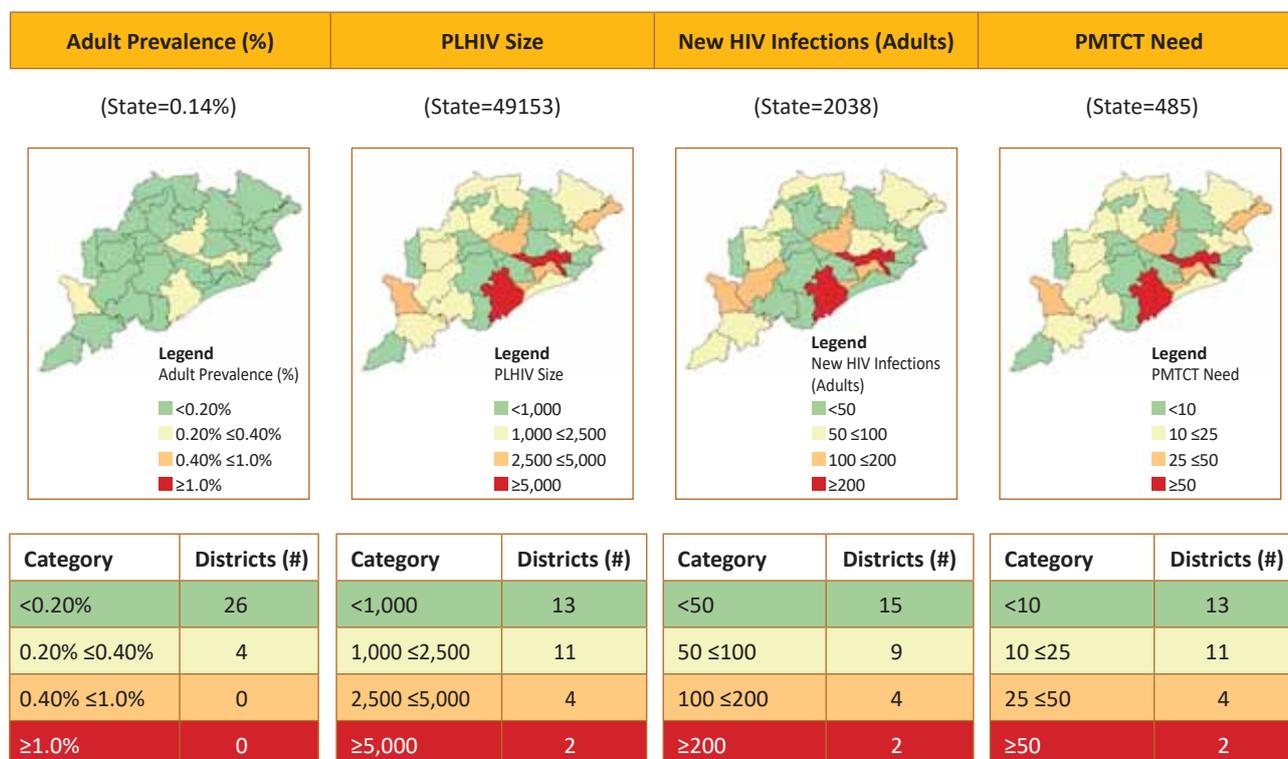
Odisha

District-wide Key Epidemiological Estimates, HIV Estimations 2019

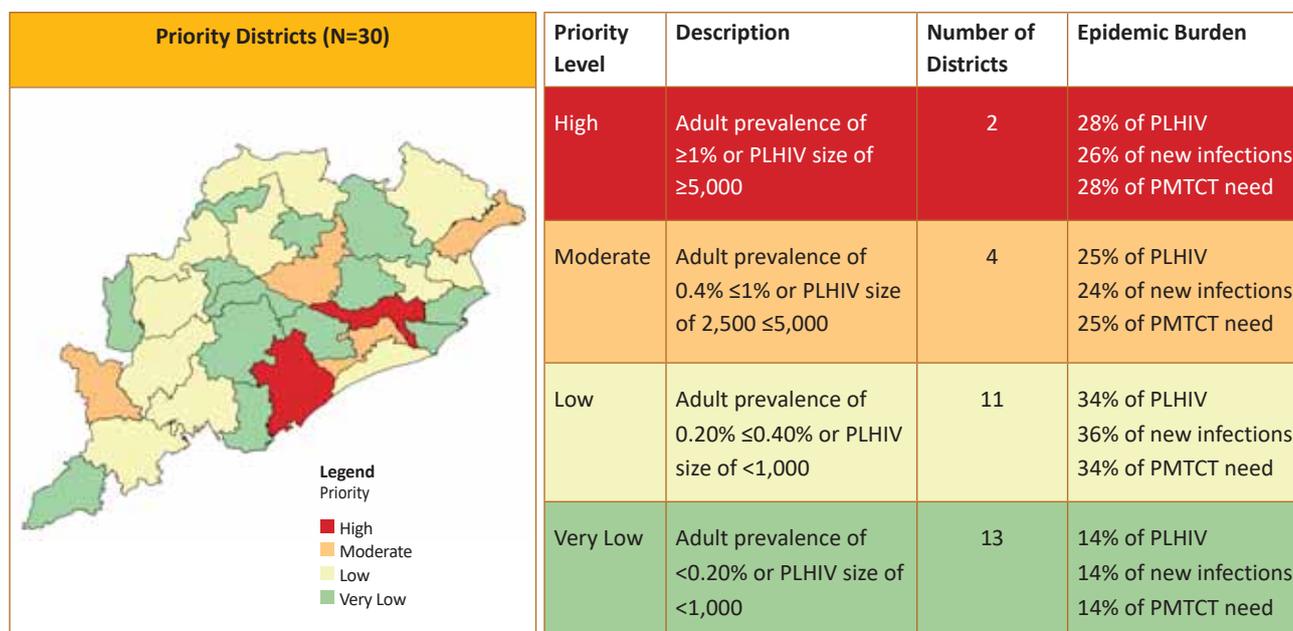
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Anugul	0.253	2751	102	90	27	Moderate
2	Balangir	0.139	1859	77	61	<25	Low
3	Baleshwar	0.171	3369	51	110	34	Moderate
4	Bargarh	0.114	1394	54	46	<25	Low
5	Baudh	<0.10	253	<25	<25	<25	Very Low
6	Bhadrak	0.107	1363	50	44	<25	Low
7	Cuttack	0.352	7628	285	249	75	High
8	Debagarh	0.107	281	<25	<25	<25	Very Low
9	Dhenkanal	<0.10	609	58	<25	<25	Very Low
10	Gajapati	<0.10	424	<25	<25	<25	Very Low
11	Ganjam	0.204	6095	242	199	60	High
12	Jagatsinghapur	<0.10	569	<25	<25	<25	Very Low
13	Jajapur	0.105	1599	62	52	<25	Low
14	Jharsuguda	<0.10	324	<25	<25	<25	Very Low
15	Kalahandi	0.106	1373	122	45	<25	Low
16	Kandhamal	<0.10	454	<25	<25	<25	Very Low
17	Kendrapara	<0.10	478	<25	<25	<25	Very Low
18	Kendujhar	<0.10	763	<25	<25	<25	Very Low
19	Khordha	0.148	2818	163	92	28	Moderate
20	Koraput	0.134	1550	78	51	<25	Low
21	Malkangiri	0.113	595	54	<25	<25	Very Low
22	Mayurbhanj	<0.10	1440	70	47	<25	Low
23	Nabarangapur	0.306	3189	176	104	32	Moderate
24	Nayagarh	0.100	780	31	26	<25	Very Low
25	Nuapada	<0.10	461	<25	<25	<25	Very Low
26	Puri	<0.10	1258	45	41	<25	Low
27	Rayagada	0.173	1430	46	47	<25	Low
28	Sambalpur	0.119	1031	43	34	<25	Low
29	Subarnapur	0.132	671	26	<25	<25	Very Low
30	Sundargarh	0.131	2342	97	77	<25	Low

Odisha

District-wide Map on Key Indicators



Priority Districts



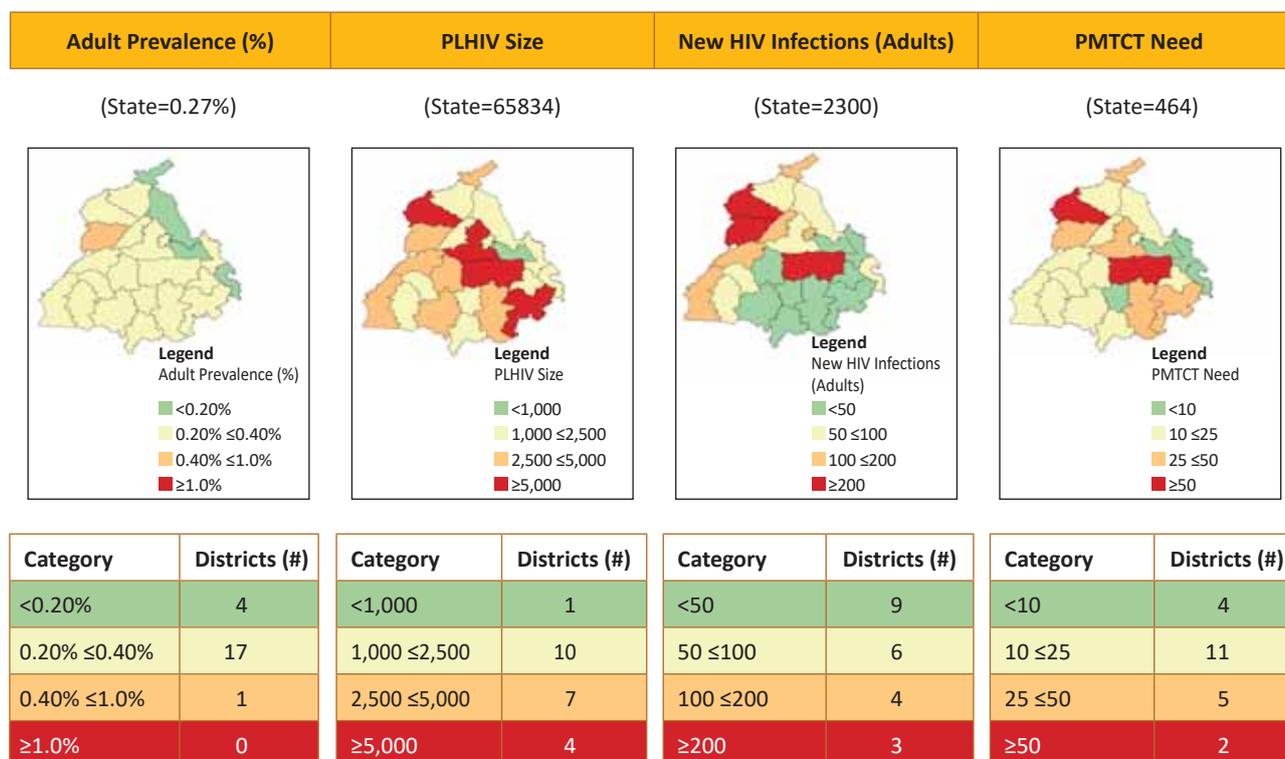
Punjab

District-wide Key Epidemiological Estimates, HIV Estimations 2019

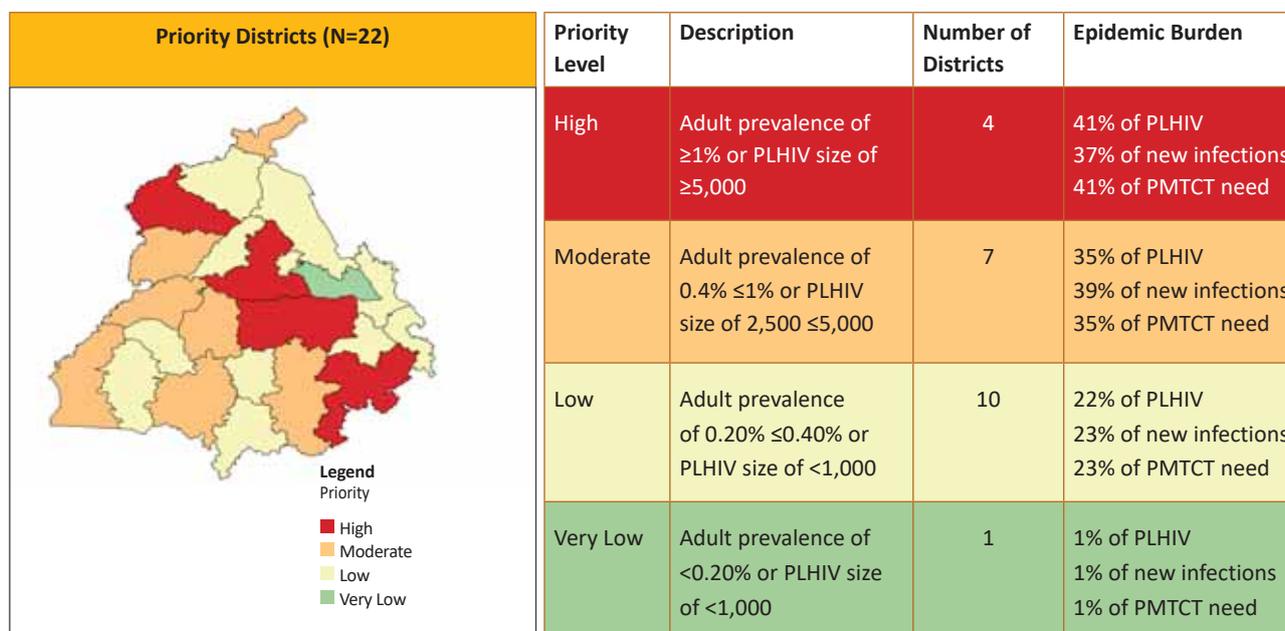
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Amritsar	0.369	8261	455	177	58	High
2	Barnala	0.251	1180	<25	<25	<25	Low
3	Bathinda	0.250	2768	<25	56	<25	Moderate
4	Faridkot	0.228	1345	80	26	<25	Low
5	Fatehgarh Sahib	0.271	1391	41	29	<25	Low
6	Firozpur	0.286	2586	193	52	<25	Moderate
7	Gurdaspur	0.192	3869	143	82	28	Moderate
8	Hoshiarpur	0.122	1634	66	33	<25	Low
9	Jalandhar	0.302	5253	83	108	36	High
10	Kapurthala	0.255	1728	128	36	<25	Low
11	Ludhiana	0.250	7754	284	154	54	High
12	Mansa	0.234	1449	<25	29	<25	Low
13	Moga	0.375	2814	<25	56	<25	Moderate
14	Muktsar	0.236	1894	70	36	<25	Low
15	Patiala	0.392	5919	26	118	41	High
16	Rupnagar	0.216	1076	<25	<25	<25	Low
17	Sangrur	0.274	3517	<25	69	25	Moderate
18	Shahid Bhagat Singh Nagar	0.144	770	30	<25	<25	Very Low
19	Tarn Taran	0.429	4892	388	98	34	Moderate
20	Fazilka	0.237	2700	121	52	<25	Moderate
21	Pathankot	0.364	1930	56	39	<25	Low
22	SAS Nagar	0.116	1102	58	<25	<25	Low

Punjab

District-wide Map on Key Indicators



Priority Districts



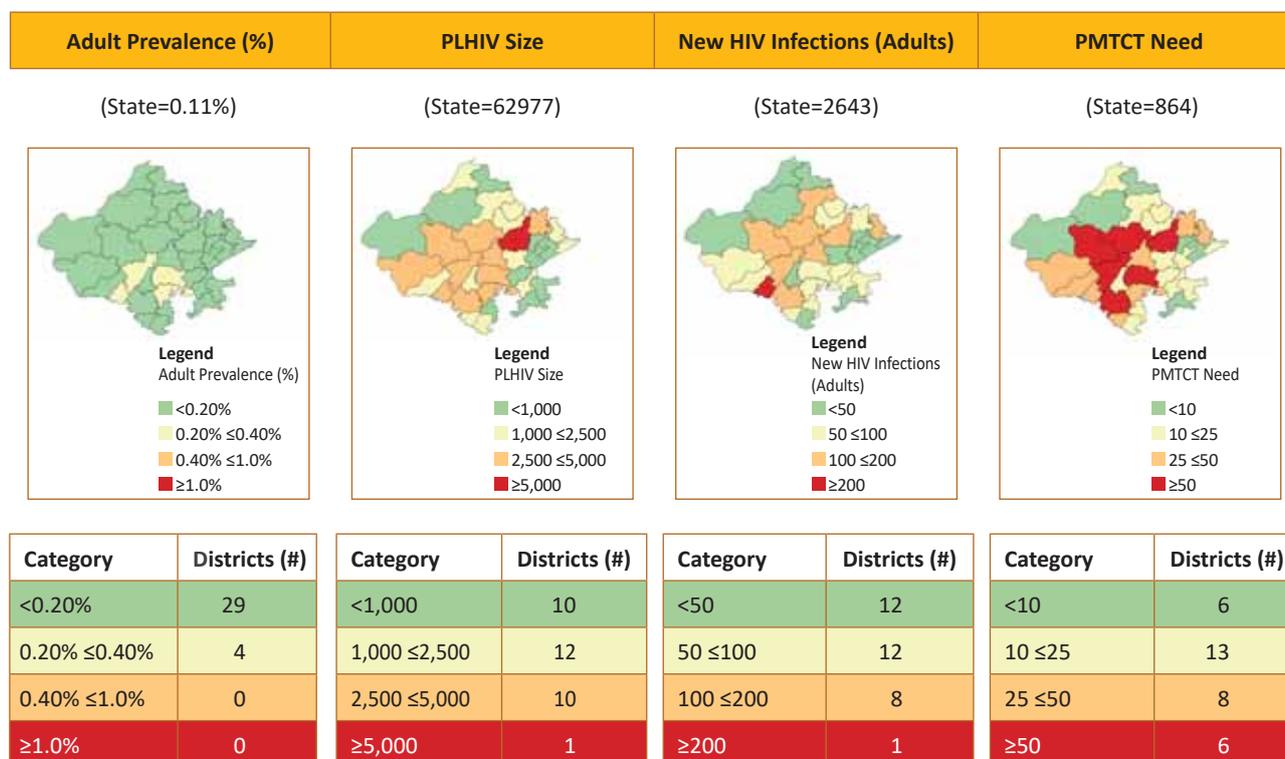
Rajasthan

District-wide Key Epidemiological Estimates, HIV Estimations 2019

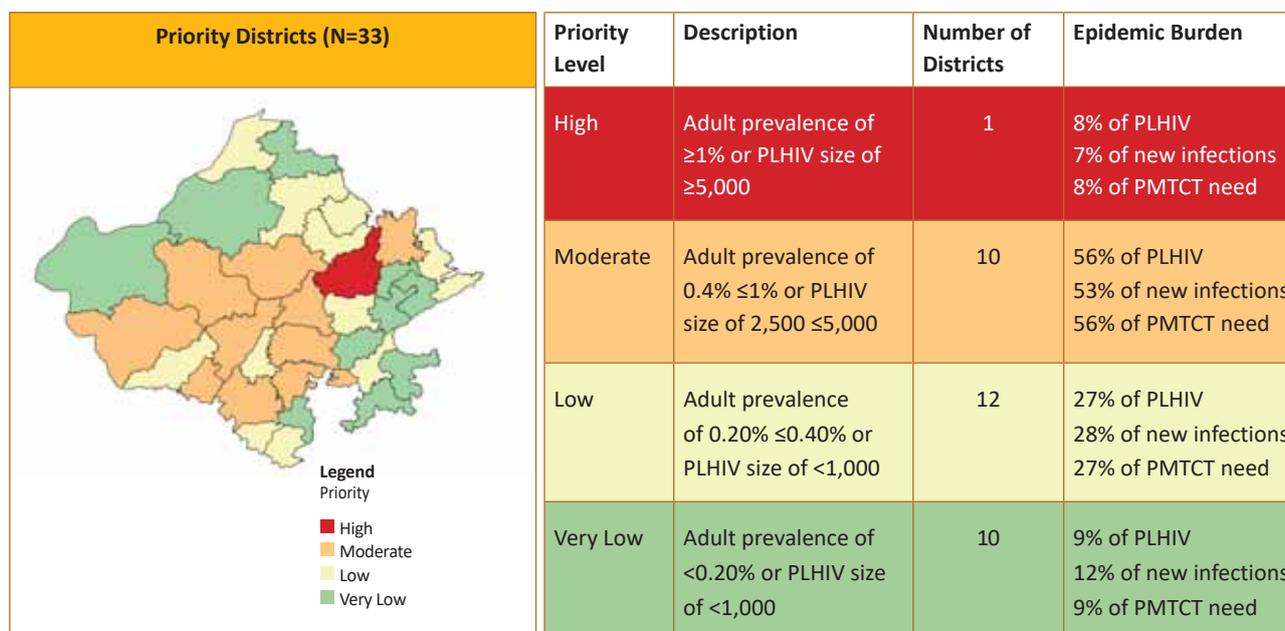
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Ajmer	0.132	2789	116	30	38	Moderate
2	Alwar	<0.10	2512	82	26	34	Moderate
3	Banswara	<0.10	1112	41	<25	<25	Low
4	Baran	<0.10	737	59	<25	<25	Very Low
5	Barmer	0.149	3245	95	34	44	Moderate
6	Bharatpur	<0.10	2022	131	<25	28	Low
7	Bhilwara	0.218	4271	96	45	59	Moderate
8	Bikaner	<0.10	531	42	<25	<25	Very Low
9	Bundi	<0.10	724	62	<25	<25	Very Low
10	Chittaurgarh	0.222	2735	84	29	38	Moderate
11	Churu	<0.10	1076	102	<25	<25	Low
12	Dausa	<0.10	231	<25	<25	<25	Very Low
13	Dhaulpur	<0.10	1003	28	<25	<25	Low
14	Dungarpur	0.185	2102	86	<25	29	Low
15	Ganganagar	<0.10	1127	<25	<25	<25	Low
16	Hanumangarh	<0.10	688	<25	<25	<25	Very Low
17	Jaipur	<0.10	5060	173	53	70	High
18	Jaisalmer	<0.10	397	30	<25	<25	Very Low
19	Jalor	0.133	2014	56	<25	28	Low
20	Jhalawar	<0.10	711	<25	<25	<25	Very Low
21	Jhunjhunu	<0.10	1220	99	<25	<25	Low
22	Jodhpur	0.124	3841	144	41	53	Moderate
23	Karauli	<0.10	235	<25	<25	<25	Very Low
24	Kota	0.101	1669	75	<25	<25	Low
25	Nagaur	0.148	4106	167	43	57	Moderate
26	Pali	0.245	3959	181	42	55	Moderate
27	Pratapgarh	0.101	724	60	<25	<25	Very Low
28	Rajsamand	0.110	1009	<25	<25	<25	Low
29	Sawai Madhopur	<0.10	734	33	<25	<25	Very Low
30	Sikar	<0.10	1596	58	<25	<25	Low
31	Sirohi	0.312	2660	229	28	36	Moderate
32	Tonk	<0.10	1188	46	<25	<25	Low
33	Udaipur	0.198	4946	196	52	68	Moderate

Rajasthan

District-wide Map on Key Indicators



Priority Districts



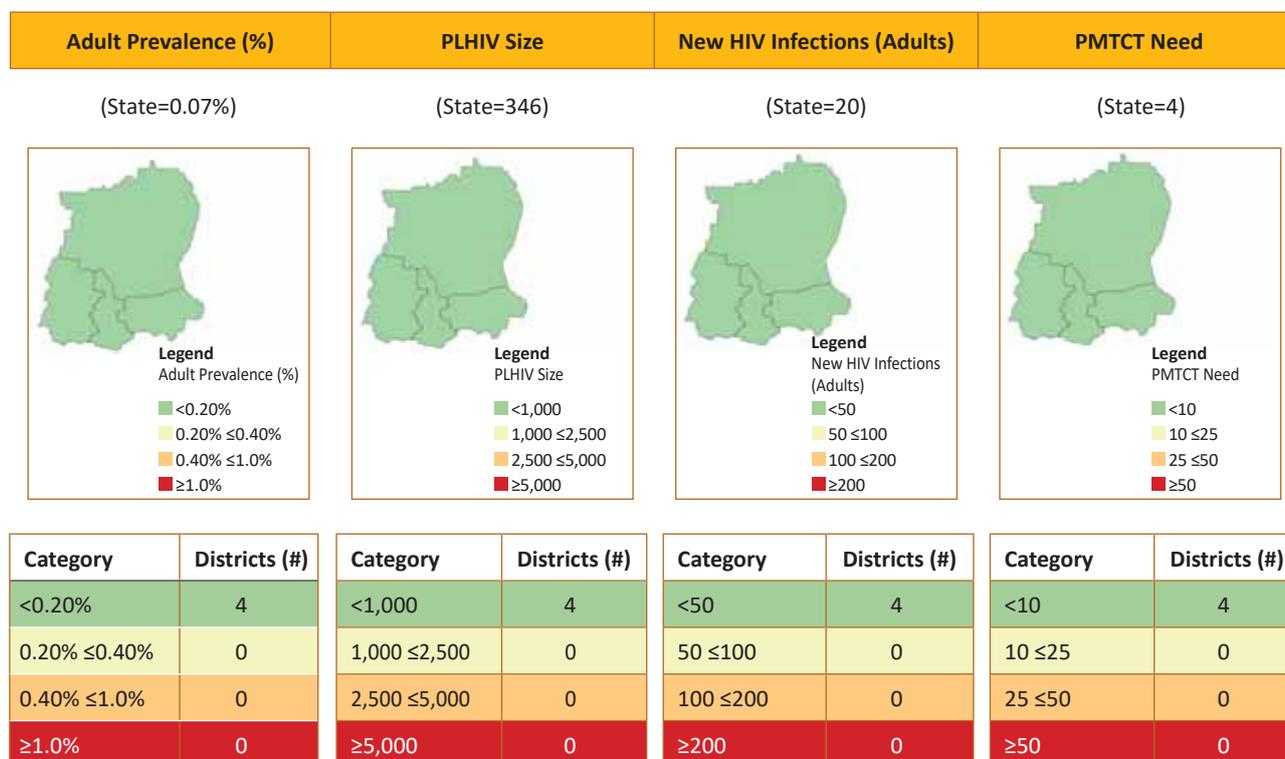
Sikkim

District-wide Key Epidemiological Estimates, HIV Estimations 2019

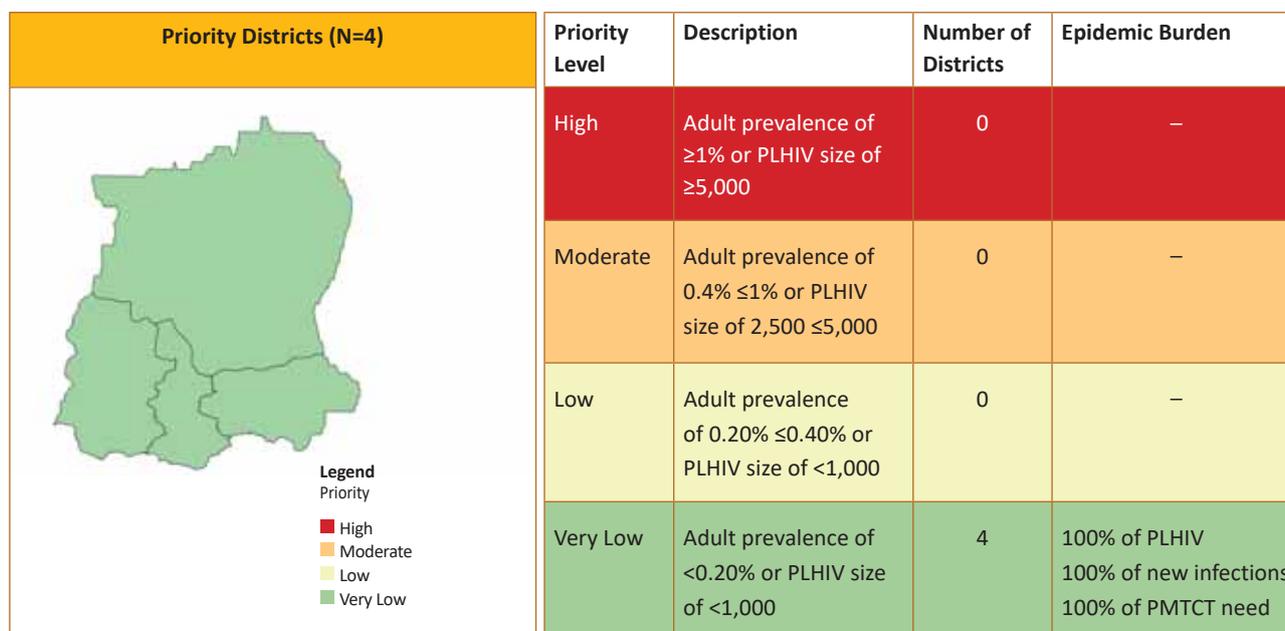
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	East Sikkim	<0.10	153	<25	<25	<25	Very Low
2	North Sikkim	<0.10	<100	<25	<25	<25	Very Low
3	South Sikkim	<0.10	<100	<25	<25	<25	Very Low
4	West Sikkim	<0.10	<100	<25	<25	<25	Very Low

Sikkim

District-wide Map on Key Indicators



Priority Districts



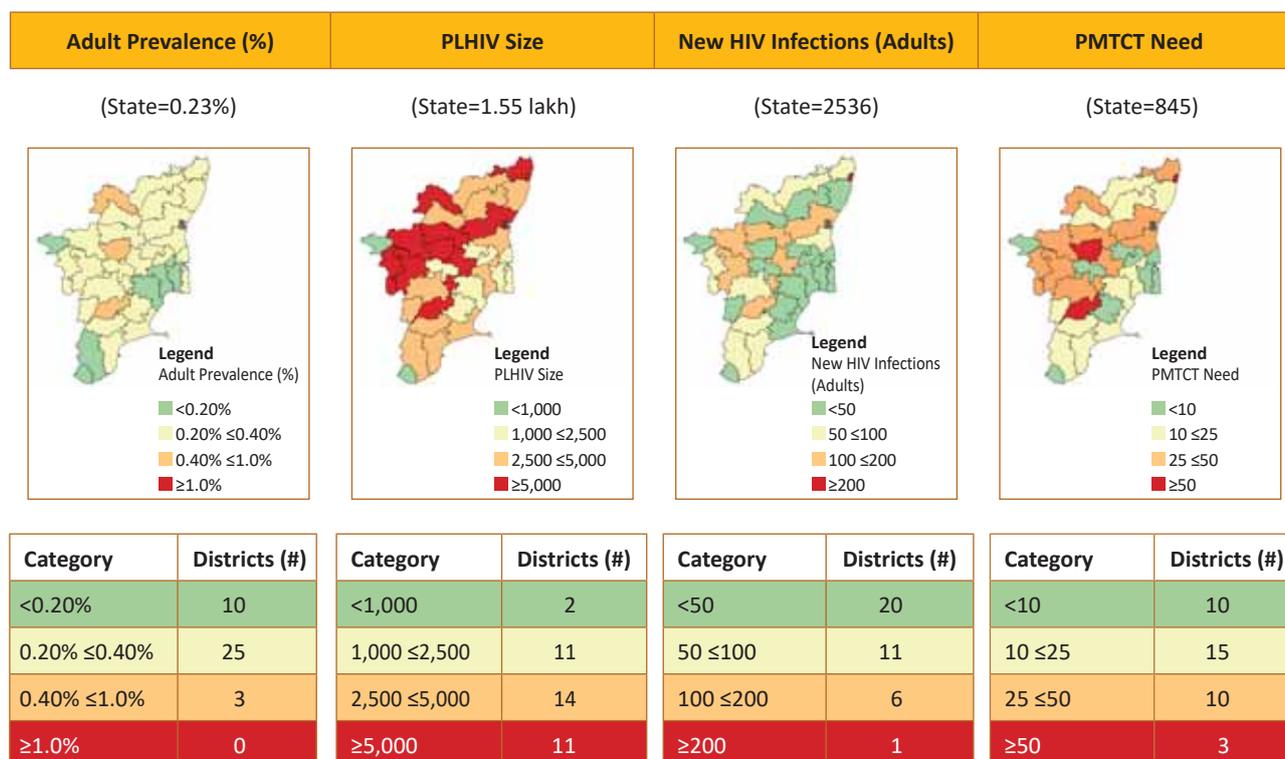
Tamil Nadu

District-wide Key Epidemiological Estimates, HIV Estimations 2019

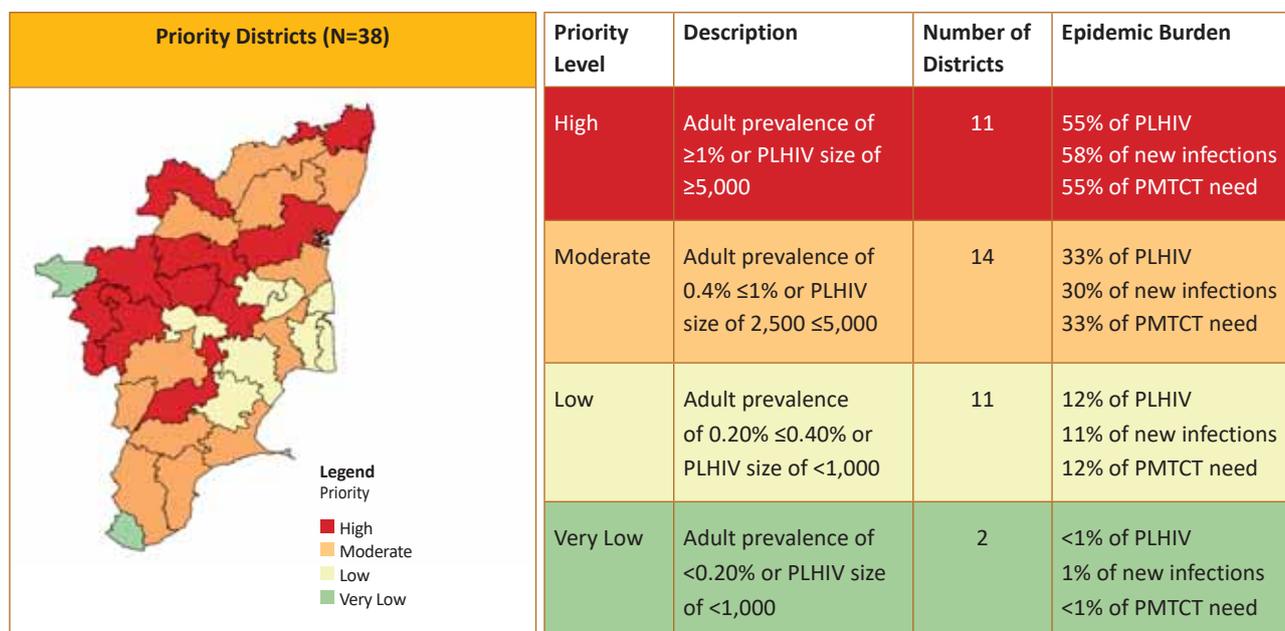
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Ariyalur	0.232	1335	<25	29	<25	Low
2	Chengalpattu	0.183	3764	71	74	<25	Moderate
3	Chennai	0.328	12358	343	251	66	High
4	Coimbatore	0.232	5935	88	118	31	High
5	Cuddalore	0.229	4763	78	88	27	Moderate
6	Dharmapuri	0.250	2996	31	59	<25	Moderate
7	Dindigul	0.299	4903	85	88	27	Moderate
8	Erode	0.342	5531	109	103	31	High
9	Kallakurichi	0.239	2637	51	44	<25	Moderate
10	Kancheepuram	0.263	2996	41	59	<25	Moderate
11	Kanniyakumari	<0.10	886	<25	<25	<25	Very Low
12	Karur	0.246	1919	<25	29	<25	Low
13	Krishnagiri	0.430	6569	95	118	35	High
14	Madurai	0.424	9531	197	162	53	High
15	Mayiladuthurai	0.163	1161	<25	29	<25	Low
16	Nagapattinam	0.204	1100	<25	<25	<25	Low
17	Namakkal	0.924	11882	<25	236	66	High
18	Perambalur	0.280	1217	<25	29	<25	Low
19	Pudukkottai	0.179	2238	<25	44	<25	Low
20	Ramanathapuram	0.233	2502	37	44	<25	Moderate
21	Ranipet	0.254	2463	44	44	<25	Low
22	Salem	0.264	7091	105	133	40	High
23	Sivaganga	0.196	1991	31	44	<25	Low
24	Tenkasi	0.147	1588	27	29	<25	Low
25	Thanjavur	0.146	2676	34	59	<25	Moderate
26	The Nilgiris	<0.10	454	<25	<25	<25	Very Low
27	Theni	0.361	3433	41	59	<25	Moderate
28	Thiruvallur	0.205	6188	98	118	35	High
29	Thiruvarur	0.157	1526	27	29	<25	Low
30	Thoothukkudi	0.222	2934	54	59	<25	Moderate
31	Tiruchirappalli	0.376	7500	180	133	40	High
32	Tirunelveli	0.189	4392	58	88	<25	Moderate
33	Tirupathur	0.255	2278	41	44	<25	Low
34	Tiruppur	0.355	6737	149	133	35	High
35	Tiruvannamalai	0.207	4028	34	74	<25	Moderate
36	Vellore	0.320	4090	71	74	<25	Moderate
37	Viluppuram	0.297	5099	109	103	27	High
38	Virudhunagar	0.256	3916	71	74	<25	Moderate

Tamil Nadu

District-wide Map on Key Indicators



Priority Districts



Telangana

District-wide Key Epidemiological Estimates, HIV Estimations 2019

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Adilabad	0.301	1895	<25	49	<25	Low
2	Bhadradi Kothagudem	0.439	4981	215	115	33	Moderate
3	Hyderabad	0.546	17077	904	412	112	High
4	Jagtial	0.430	3821	<25	99	<25	Moderate
5	Jangaon	0.349	1792	<25	44	<25	Low
6	Jayashankar Bhupalpally	0.399	2494	32	60	<25	Low
7	Jogulamba Gadwal	0.361	2252	304	55	<25	Low
8	Kamareddy	0.552	4760	<25	121	31	Moderate
9	Karimnagar	0.552	5079	<25	126	33	High
10	Khammam	0.723	9273	46	231	59	High
11	Kumuram Bheem Asifabad	0.418	1906	<25	49	<25	Moderate
12	Mahabubabad	0.339	2298	<25	55	<25	Low
13	Mahabubnagar	0.509	5790	<25	143	37	High
14	Mancherial	0.329	2366	<25	60	<25	Low
15	Medak	0.534	3584	<25	88	<25	Moderate
16	Medchal	0.453	10814	<25	269	71	High
17	Mulugu	0.394	1032	<25	27	<25	Low
18	Nagarkurnool	0.727	5618	469	143	37	High
19	Nalgonda	0.497	7157	<25	181	46	High
20	Narayanpet	0.659	3216	205	82	<25	Moderate
21	Nirmal	0.404	2535	<25	60	<25	Moderate
22	Nizamabad	0.461	6274	<25	159	42	High
23	Peddapalli	0.291	2078	<25	49	<25	Low
24	Rajanna Sircilla	0.482	2386	<25	60	<25	Moderate
25	Rangareddy	0.514	12312	<25	307	79	High
26	Sangareddy	0.571	7655	<25	192	51	High
27	Siddipet	0.352	3064	<25	77	<25	Moderate
28	Suryapet	0.708	6871	<25	170	44	High
29	Vikarabad	0.623	5122	<25	126	33	High
30	Wanaparthy	0.439	2848	212	71	<25	Moderate
31	Warangal (Rural)	0.341	2157	<25	55	<25	Low
32	Warangal (Urban)	0.426	4267	39	104	29	Moderate
33	Yadadri Bhuvanagiri	0.431	2740	<25	66	<25	Moderate

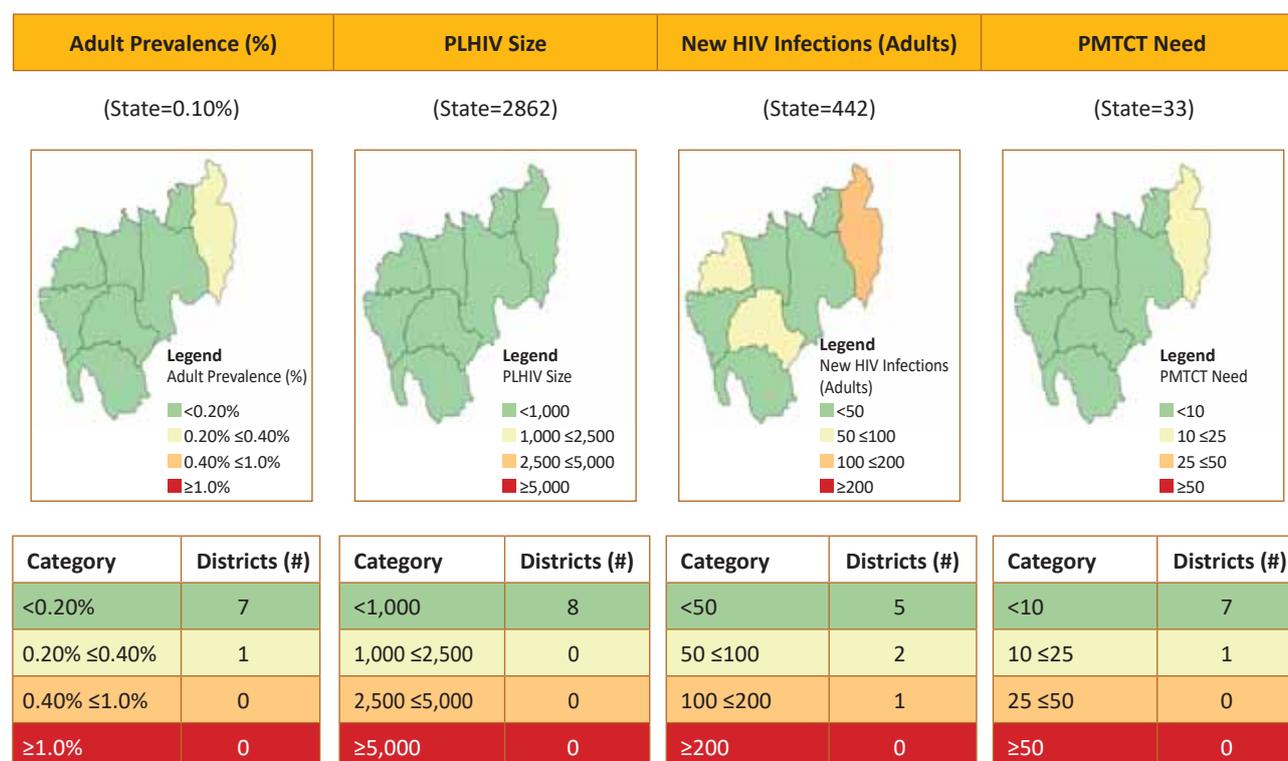
Tripura

District-wide Key Epidemiological Estimates, HIV Estimations 2019

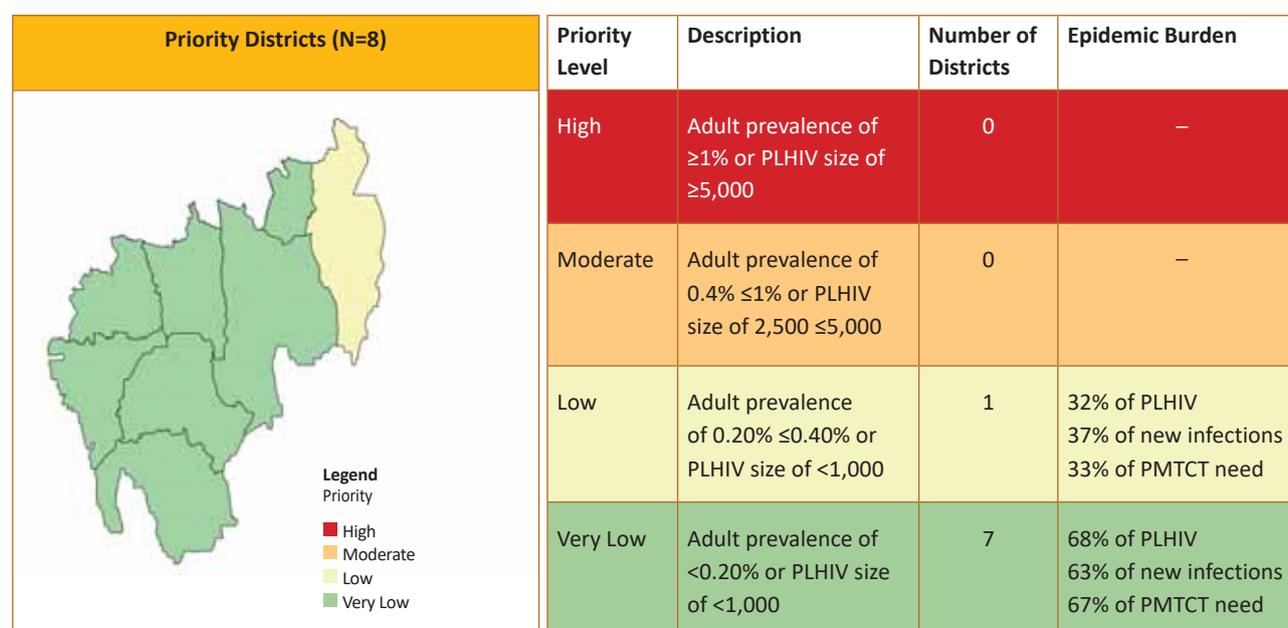
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Dhalai	<0.10	273	33	<25	<25	Very Low
2	North Tripura	0.276	910	162	<25	<25	Low
3	South Tripura	<0.10	107	<25	<25	<25	Very Low
4	West Tripura	<0.10	588	84	<25	<25	Very Low
5	Gomati	0.101	344	63	<25	<25	Very Low
6	Khowai	<0.10	203	<25	<25	<25	Very Low
7	Sepahijala	<0.10	115	<25	<25	<25	Very Low
8	Unakoti	0.146	321	50	<25	<25	Very Low

Tripura

District-wide Map on Key Indicators



Priority Districts



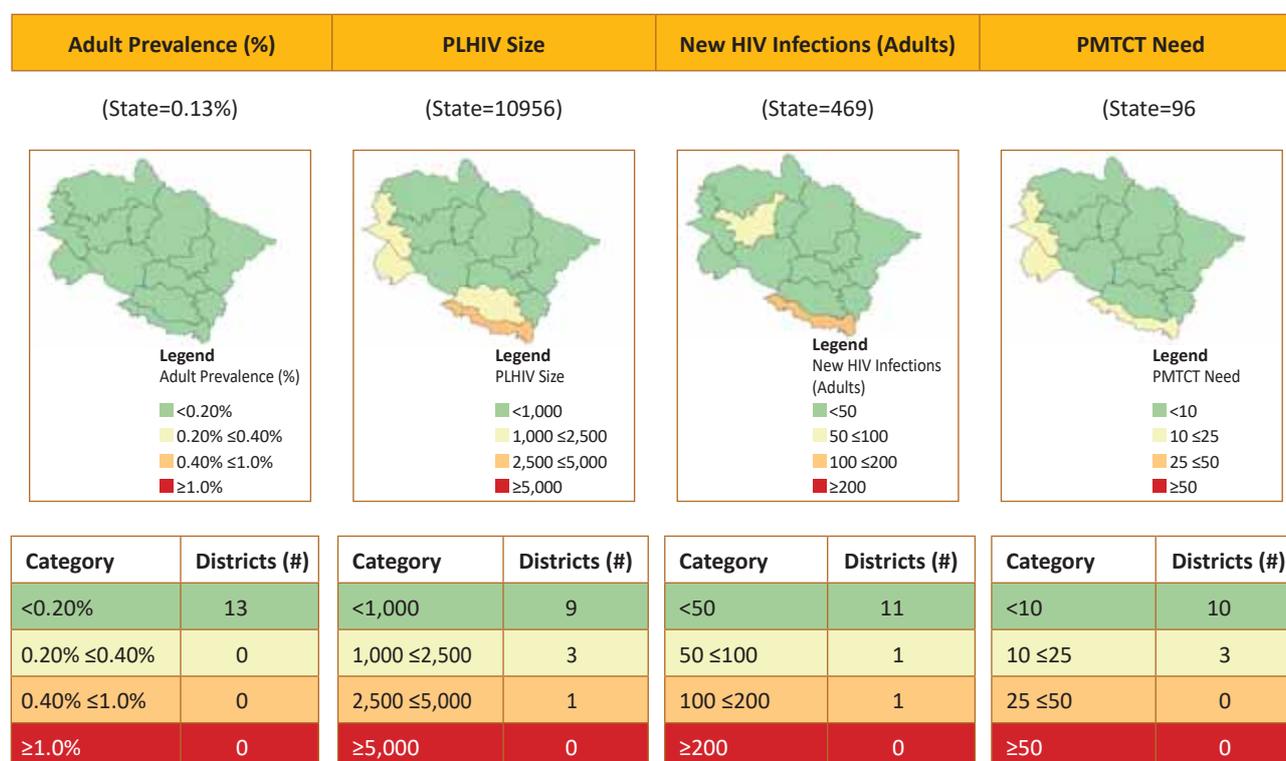
Uttarakhand

District-wide Key Epidemiological Estimates, HIV Estimations 2019

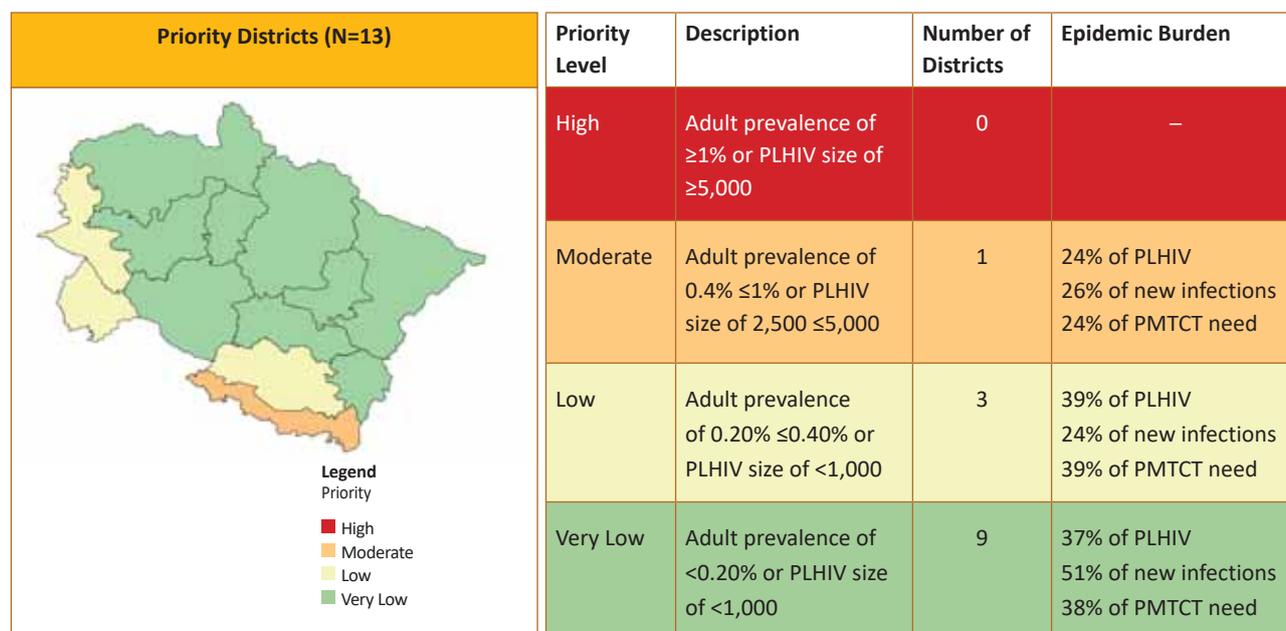
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Almora	0.120	583	36	<25	<25	Very Low
2	Bageshwar	0.106	216	27	<25	<25	Very Low
3	Chamoli	<0.10	320	<25	<25	<25	Very Low
4	Champawat	0.145	312	<25	<25	<25	Very Low
5	Dehradun	0.122	1722	34	51	<25	Low
6	Haridwar	<0.10	1512	35	45	<25	Low
7	Nainital	0.126	1009	43	30	<25	Low
8	Pauri Garhwal	<0.10	448	<25	<25	<25	Very Low
9	Pithoragarh	0.152	583	40	<25	<25	Very Low
10	Rudraprayag	<0.10	149	<25	<25	<25	Very Low
11	Tehri Garhwal	0.197	995	57	29	<25	Very Low
12	Udham Singh Nagar	0.182	2637	120	78	<25	Moderate
13	Uttarkashi	0.169	470	<25	<25	<25	Very Low

Uttarakhand

District-wide Map on Key Indicators



Priority Districts



Uttar Pradesh

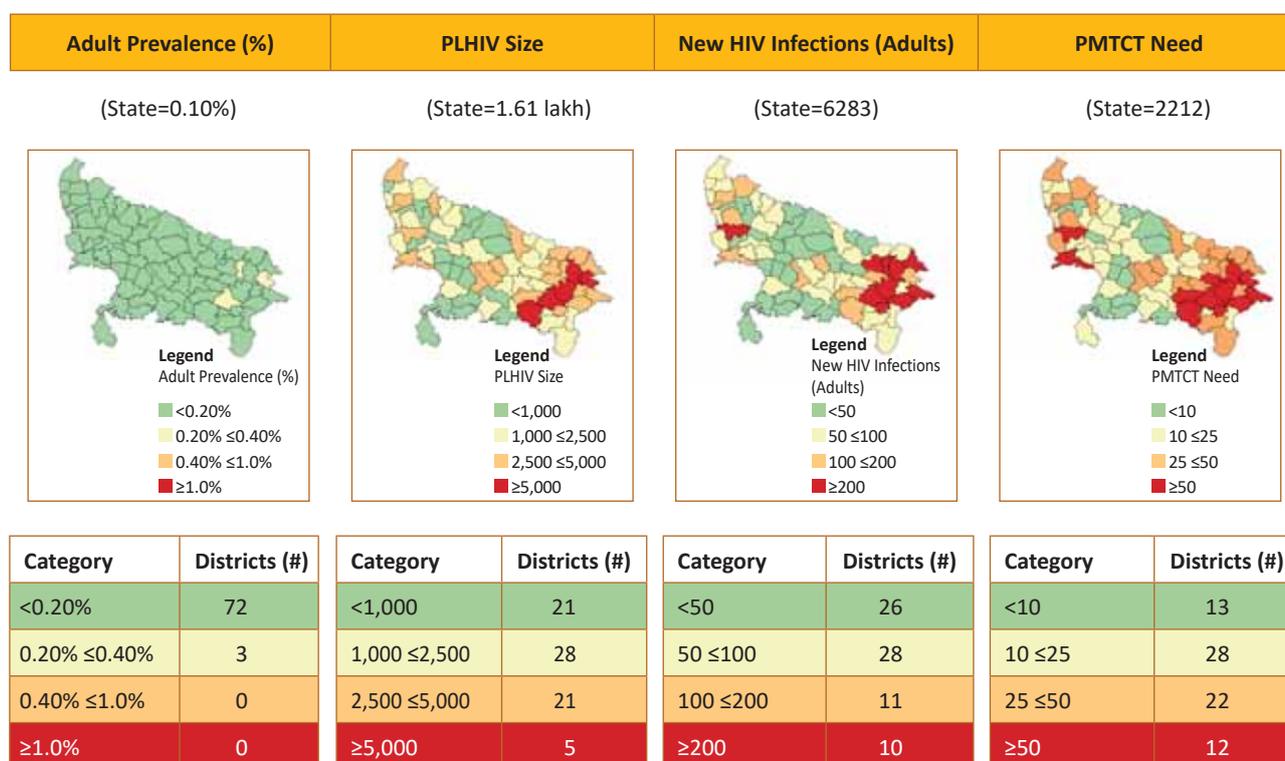
District-wide Key Epidemiological Estimates, HIV Estimations 2019

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Agra	0.119	4319	120	94	60	Moderate
2	Aligarh	0.145	4327	245	94	60	Moderate
3	Allahabad	0.138	6622	119	145	91	High
4	Ambedkar Nagar	0.199	3806	183	83	52	Moderate
5	Auraiya	<0.10	687	<25	<25	<25	Very Low
6	Azamgarh	0.198	7234	231	158	100	High
7	Baghpat	0.112	1152	61	<25	<25	Low
8	Bahraich	0.102	2840	69	62	39	Moderate
9	Ballia	0.161	4086	227	89	56	Moderate
10	Balrampur	0.116	1991	49	44	27	Low
11	Banda	<0.10	1279	<25	28	<25	Low
12	Barabanki	<0.10	1314	27	28	<25	Low
13	Bareilly	<0.10	1470	52	32	<25	Low
14	Basti	0.171	3350	207	73	46	Moderate
15	Bijnor	<0.10	1864	100	41	26	Low
16	Budaun	<0.10	1525	90	33	<25	Low
17	Bulandshahar	<0.10	2307	106	50	32	Low
18	Chandauli	<0.10	1286	60	28	<25	Low
19	Chitrakoot	<0.10	629	<25	<25	<25	Very Low
20	Deoria	0.213	5206	140	114	72	High
21	Etah	<0.10	1178	59	26	<25	Low
22	Etawah	<0.10	871	40	<25	<25	Very Low
23	Faizabad	<0.10	1436	<25	31	<25	Low
24	Farrukhabad	<0.10	1024	<25	<25	<25	Low
25	Fatehpur	<0.10	995	53	<25	<25	Very Low
26	Firozabad	<0.10	1767	86	39	<25	Low
27	Gautam Buddha Nagar	<0.10	1072	70	<25	<25	Low
28	Ghaziabad	<0.10	2611	127	57	36	Moderate
29	Ghazipur	0.148	4189	292	91	57	Moderate
30	Gonda	<0.10	1784	74	39	<25	Low
31	Gorakhpur	0.162	5734	317	125	79	High
32	Hamirpur	<0.10	298	<25	<25	<25	Very Low
33	Hardoi	<0.10	1044	33	<25	<25	Low
34	Jalaun	<0.10	1151	55	<25	<25	Low
35	Jaunpur	0.212	7523	228	164	104	High
36	Jhansi	<0.10	617	<25	<25	<25	Very Low

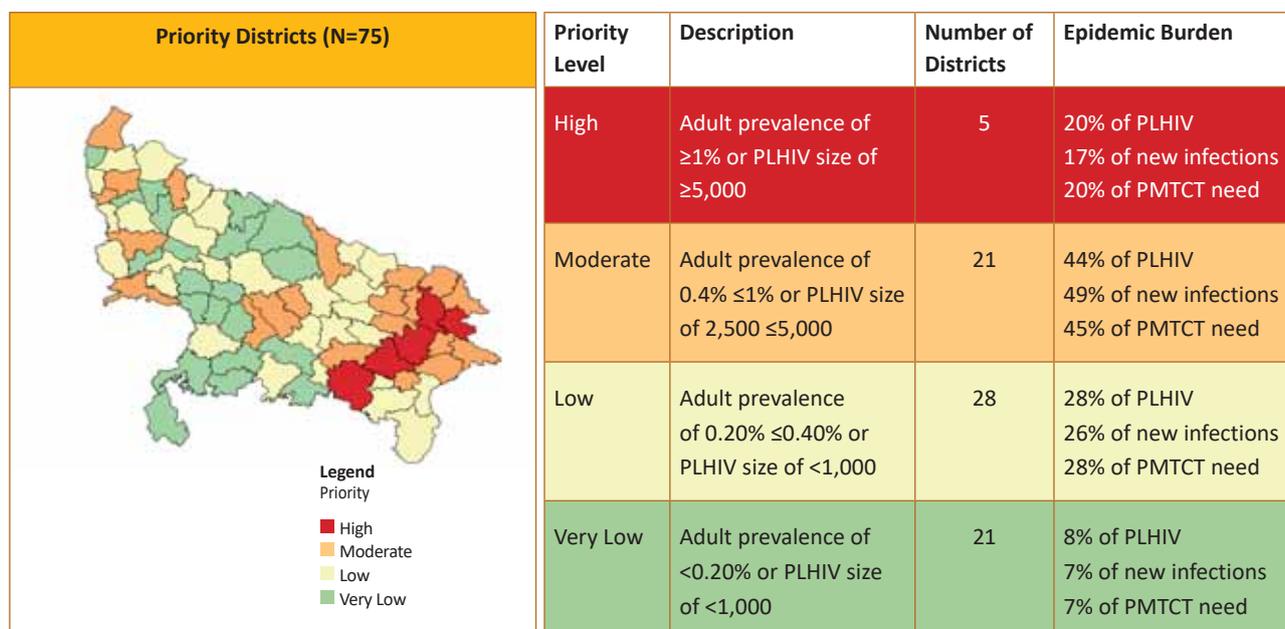
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
37	Jyotiba Phule Nagar(Amroha)	<0.10	396	<25	<25	<25	Very Low
38	Kannauj	<0.10	665	<25	<25	<25	Very Low
39	Kanpur Nagar	<0.10	2614	117	57	36	Moderate
40	Kanshiram Nagar (Kasganj)	<0.10	331	<25	<25	<25	Very Low
41	Kaushambi	0.118	1513	<25	33	<25	Low
42	Kheri	<0.10	647	<25	<25	<25	Very Low
43	Kushinagar	0.120	3399	207	74	47	Moderate
44	Lalitpur	<0.10	852	<25	<25	<25	Very Low
45	Lucknow	<0.10	2646	104	58	37	Moderate
46	Maharajganj	0.156	3360	89	73	46	Moderate
47	Mahoba	<0.10	187	<25	<25	<25	Very Low
48	Mainpuri	<0.10	912	50	<25	<25	Very Low
49	Mathura	0.100	2054	95	45	28	Low
50	Mau	0.181	3180	73	70	44	Moderate
51	Meerut	<0.10	2675	129	58	37	Moderate
52	Mirzapur	0.106	2117	51	46	29	Low
53	Moradabad	0.103	2688	77	59	37	Moderate
54	Muzaffarnagar	<0.10	1792	82	39	<25	Low
55	Pilibhit	<0.10	633	27	<25	<25	Very Low
56	Pratapgarh	0.154	3918	109	85	54	Moderate
57	Rae Bareli	<0.10	1146	54	<25	<25	Low
58	Rampur	<0.10	1633	96	36	<25	Low
59	Saharanpur	0.114	3232	64	71	45	Moderate
60	Sant Kabir Nagar	0.232	3161	218	69	44	Moderate
61	Sant Ravidas Nagar	<0.10	1011	68	<25	<25	Low
62	Shahjahanpur	<0.10	765	39	<25	<25	Very Low
63	Shrawasti	0.118	1043	25	<25	<25	Low
64	Siddharth Nagar	0.158	3176	84	69	44	Moderate
65	Sitapur	<0.10	531	29	<25	<25	Very Low
66	Sonbhadra	0.142	2116	100	46	29	Low
67	Sultanpur	0.140	2489	66	54	34	Low
68	Unnao	0.114	2808	79	61	39	Moderate
69	Varanasi	0.136	4021	264	88	55	Moderate
70	Amethi	0.120	2418	59	53	33	Low
71	Hapur	<0.10	529	<25	<25	<25	Very Low
72	Hathras	<0.10	937	39	<25	<25	Very Low
73	Kanpur Dehat	<0.10	573	<25	<25	<25	Very Low
74	Shamli	<0.10	945	53	<25	<25	Very Low
75	Sambhal	<0.10	895	33	<25	<25	Very Low

Uttar Pradesh

District-wide Map on Key Indicators



Priority Districts



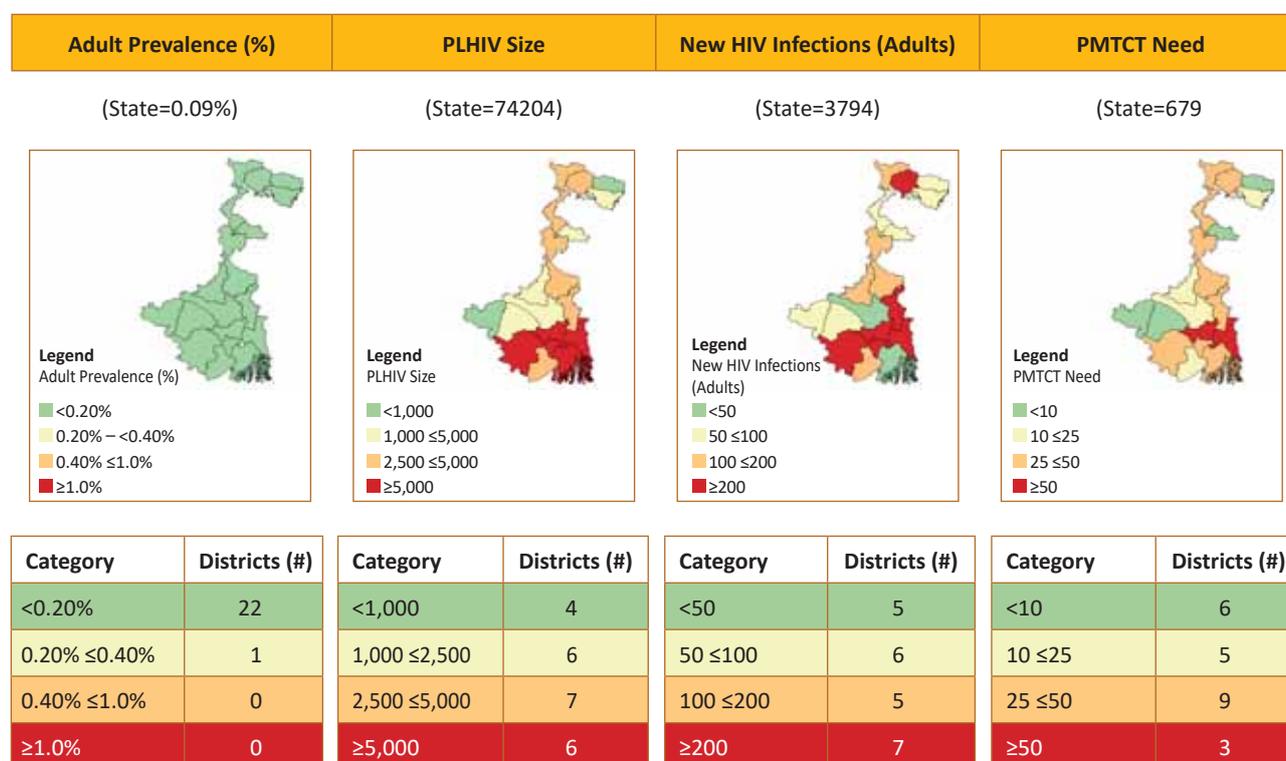
West Bengal

District-wide Key Epidemiological Estimates, HIV Estimations 2019

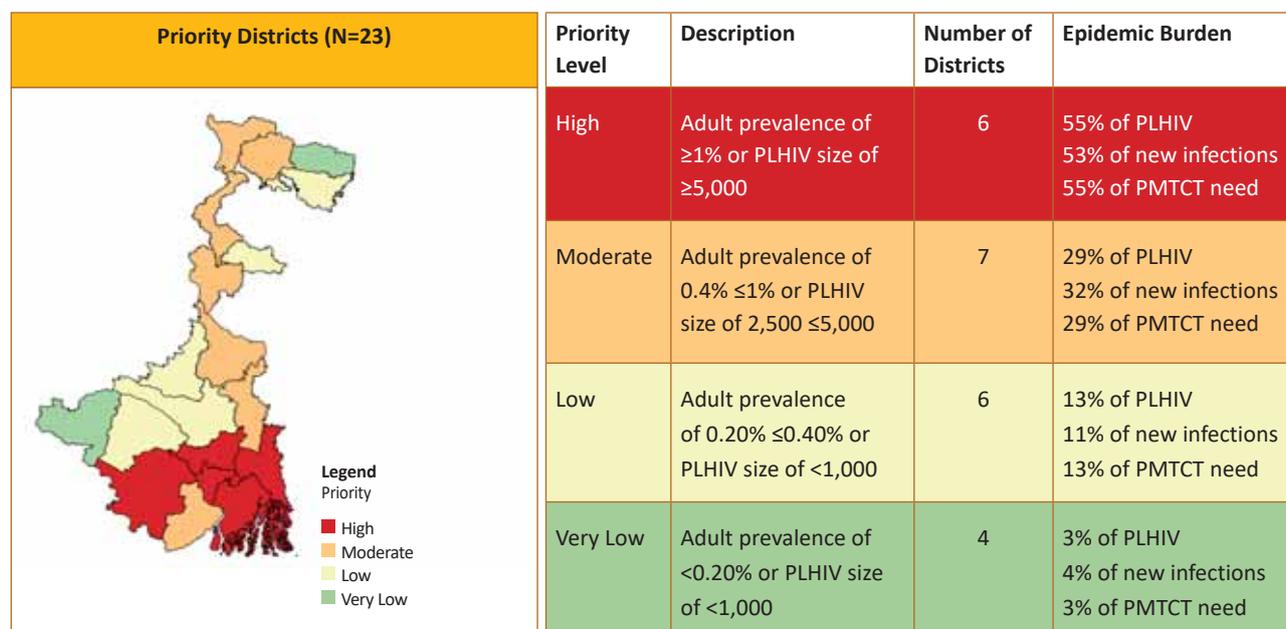
S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Alipurduar	<0.10	827	74	<25	<25	Very Low
2	Bankura	<0.10	1049	60	<25	<25	Low
3	Birbhum	<0.10	1653	124	29	<25	Low
4	Cooch Behar	<0.10	1772	79	31	<25	Low
5	Dakshin Dinajpur	<0.10	1101	79	<25	<25	Low
6	Darjiling	0.198	2962	115	52	27	Moderate
7	Haora (Howrah)	0.121	5271	491	93	48	High
8	Hugli	0.121	5782	448	102	53	High
9	Jalpaiguri	0.150	3018	265	53	27	Moderate
10	Jhargram	<0.10	460	<25	<25	<25	Very Low
11	Kalimpong	<0.10	102	<25	<25	<25	Very Low
12	Kolkata	0.301	11164	359	197	102	High
13	Maldah	<0.10	2946	135	52	27	Moderate
14	Murshidabad	<0.10	2920	178	51	27	Moderate
15	Nadia	<0.10	3954	299	70	36	Moderate
16	North Twenty Four Parganas	<0.10	8325	276	147	76	High
17	Paschim Bardhaman	<0.10	2233	29	39	<25	Low
18	Paschim Medinipur	0.119	5112	425	90	47	High
19	Purba Bardhaman	<0.10	1566	40	28	<25	Low
20	Purba Medinipur	<0.10	2617	118	46	<25	Moderate
21	Puruliya	<0.10	796	52	<25	<25	Very Low
22	South Twenty Four Parganas	<0.10	5194	30	91	48	High
23	Uttar Dinajpur	0.119	3380	93	59	31	Moderate

West Bengal

District-wide Map on Key Indicators



Priority Districts



Factsheets for Union Territories

Andaman & Nicobar Islands

District-wide Key Epidemiological Estimates, HIV Estimations 2019

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Nicobars	0.236	<100	<25	<25	<25	Low
2	North And Middle Andaman	0.194	192	<25	<25	<25	Very Low
3	South Andaman	0.102	227	<25	<25	<25	Very Low

Chandigarh

District-wide Key Epidemiological Estimates, HIV Estimations 2019

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Chandigarh	0.190	2358	115	84	<25	Low

Dadra & Nagar Haveli and Daman & Diu (DNH & DD)

District-wide Key Epidemiological Estimates, HIV Estimations 2019

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Dadra and Nagar Haveli	0.230	750	70	<25	<25	Low
2	Daman	0.144	326	<25	<25	<25	Very Low
3	Diu	0.291	143	<25	<25	<25	Low

Jammu & Kashmir and Ladakh

District-wide Key Epidemiological Estimates, HIV Estimations 2019

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
	UT of Jammu and Kashmir						
1	Anantnag	<0.10	<100	<25	<25	<25	Very Low
2	Badgam	<0.10	<100	<25	<25	<25	Very Low

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
3	Bandipora	<0.10	128	<25	<25	<25	Very Low
4	Baramula	<0.10	<100	<25	<25	<25	Very Low
5	Doda	0.184	586	47	<25	<25	Very Low
6	Ganderbal	<0.10	203	<25	<25	<25	Very Low
7	Jammu	0.149	1974	65	38	<25	Low
8	Kathua	0.127	645	<25	<25	<25	Very Low
9	Kishtwar	<0.10	<100	<25	<25	<25	Very Low
10	Kulgam	<0.10	213	<25	<25	<25	Very Low
11	Kupwara	<0.10	<100	<25	<25	<25	Very Low
12	Pulwama	<0.10	<100	<25	<25	<25	Very Low
13	Punch	<0.10	<100	<25	<25	<25	Very Low
14	Rajouri	0.102	516	37	<25	<25	Very Low
15	Ramban	<0.10	<100	<25	<25	<25	Very Low
16	Reasi	<0.10	182	<25	<25	<25	Very Low
17	Samba	<0.10	169	<25	<25	<25	Very Low
18	Shupiyan	<0.10	182	<25	<25	<25	Very Low
19	Srinagar	<0.10	514	33	<25	<25	Very Low
20	Udhampur	<0.10	206	<25	<25	<25	Very Low
UT of Ladakh							
1	Kargil	<0.10	<100	<25	<25	<25	Very Low
2	Leh	<0.10	<100	<25	<25	<25	Very Low

Puducherry

District-wide Key Epidemiological Estimates, HIV Estimations 2019

S No	District Name	Prevalence	PLHIV (Total)	New Infections (15+ Years)	ARD (15+ Years)	PMTCT Need	District Priority
1	Karaikal	<0.10	202	<25	<25	<25	Very Low
2	Mahe	0.188	<100	<25	<25	<25	Very Low
3	Puducherry	0.424	4401	239	232	32	Moderate
4	Yanam	0.133	<100	<25	<25	<25	Very Low

Annexure 5

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District-level HIV burden estimations were first piloted for 5 States in the 2017 round. Based on the approved method, district-level HIV burden estimations (2019) were undertaken for 735 districts using the 2019 State/UT-model. The technical brief provides district-wide model-based estimates on the status of the HIV epidemic on key epidemiological parameters of prevalence, incidence, AIDS-related mortality and EMTCT need.

