

HIV Drug Resistance Surveillance and Monitoring in the Southeast Asia Region

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The HIV epidemic in Southeast Asia

- **Estimated 3.5 million persons living with HIV (PLHIV) in the region**
- **Five countries account for >99% of disease burden**
- **Concentrated epidemic – IDUs, MSM, sex workers and their clients**

Country	Estimated number of PLHIV	% adult population infected with HIV
Bangladesh	7,500	<0.1
Bhutan	<500	<0.1
DPR Korea	0	0
India	2,300,000	0.36
Indonesia	270,000	0.2
Maldives	<100	<0.1
Myanmar	242,000	0.7
Nepal	70,000	0.4
Sri Lanka	4,000	<0.1
Thailand	530,000	1.2
Timor-Leste	<100	<0.1



HIV treatment scale-up in SE Asia

- **Estimated 1 million PLHIV in need of antiretroviral therapy (ART)**
- **Approximately 440,000 persons receiving ART in public sector**
- **Large-scale expansion of government sponsored ART programs in region since 2004**
 - **First-line therapy: standard NNRTI-based regimen**



Factors that may affect the development of drug resistance in the region

- **ART has been available in private sector for over 10 years in several countries**
 - Receipt of non-standard regimens
 - Availability of protease inhibitors, other “salvage” drugs
- **PMTCT scale-up is ongoing**
 - Use of sd-NVP still common
- **Increasing availability of second-line therapy**

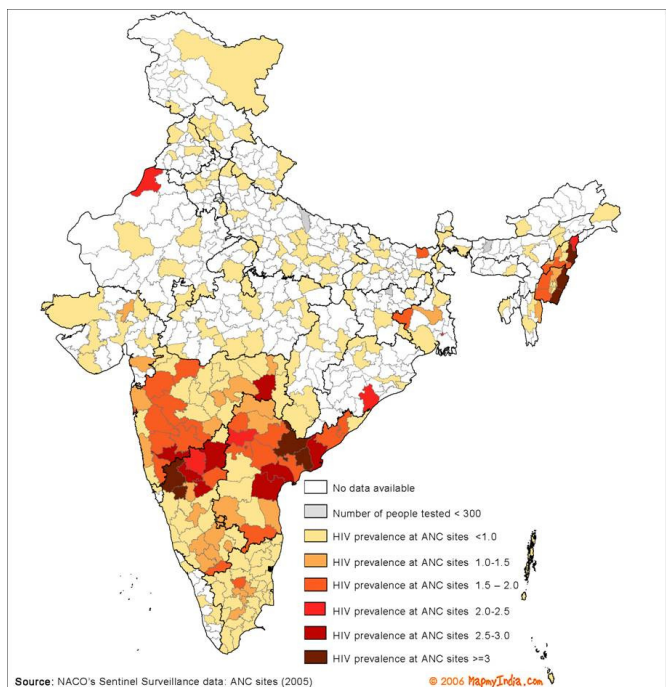


Regional HIVDR Strategy and Progress

Focus Country	Funding	EWI	Transmitted DR Survey	Monitoring Survey	Lab Accreditation
India	SEARO GFATM (applied)	Pilot in 2009	Two completed	Two pilot surveys under analysis	2 National Reference Labs
Indonesia	Gates GFATM	Piloted 2008-9	One completed	Pilot ongoing	Assessment completed; capacity building
Myanmar	GFATM R9 (applied)	Pilot in 2010			
Thailand	Other	2009	Two previous– 2005/06		2 National Reference Labs



HIV DR assessment: India



- **Threshold survey to evaluate transmitted resistance in two sites:**
 - **Mumbai VCT: completed in 2007**
 - **<5% transmitted HIVDR detected**
 - **Submitting for publication**
 - **Andhra Pradesh ANC: completed 2009**
 - **Analysis ongoing**
- **Monitoring survey in two pilot sites**
 - **Mumbai: enrollment and follow-up completed; specimens tested & analysis ongoing**
 - **13% resistance at baseline; half of these patients had prior ART**
 - **Chennai: enrollment and follow-up completed, analysis & testing ongoing**



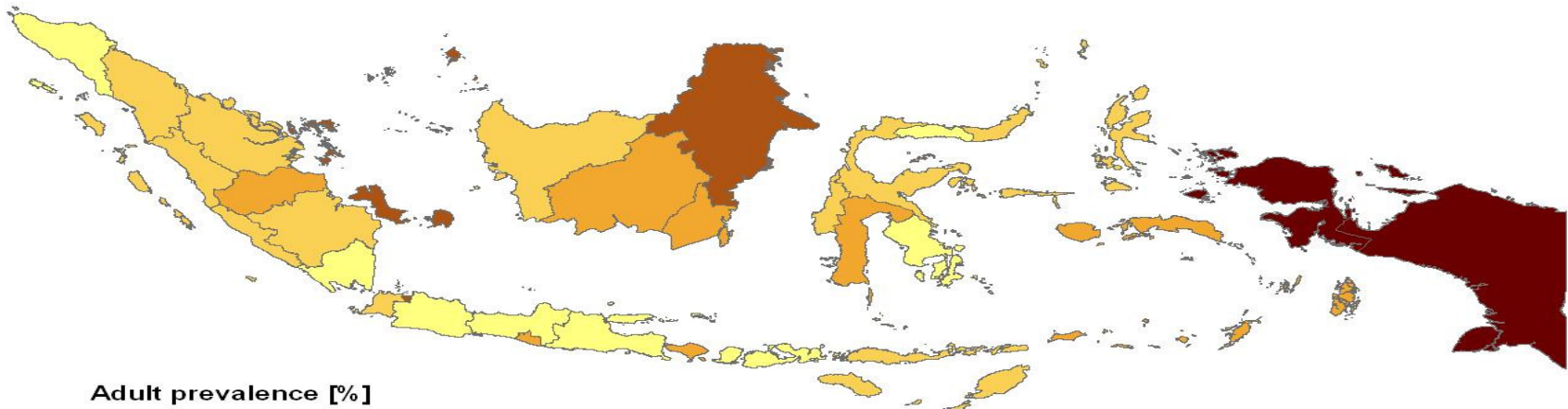
HIV DR Activities: India

- **Laboratory accreditation**
 - **National AIDS Research Institute, Pune: accredited since 2007**
 - **Tuberculosis Research Centre, Chennai: accredited since 2009**
 - **Interest to pursue training in DBS genotyping**
- **Collection of EWIs planned in 16 pilot sites in December 2009**
 - **To be combined with ART cohort analysis activities**
- **Development of five year workplan still to be planned**
 - **Expansion of EWI collection**
 - **Expansion of monitoring surveys– rolling sites**



HIV DR activities: Indonesia

- **Pilot of Early Warning Indicators (EWIs) collection and analysis initiated at four sites in Jakarta**
 - **First needed to strengthen/update routine record keeping at sites**
 - **Preliminary analysis ongoing**
- **Pilot monitoring survey initiated in 2008 in Jakarta**
 - **Enrolment completed, endpoint data collection ongoing**



HIV DR planned activities: Indonesia

- **Threshold survey to measure transmitted HIV drug resistance completed among IDUs in Jakarta in 2007**
 - **Sequencing completed at laboratory in Australia**
 - **<5% transmitted resistance detected**
- **Five-year HIV DR workplan drafted and finalized by national working group in 2008**
 - **Expansion of EWI collection**
 - **Rolling sites for monitoring surveys**
 - **Repeat threshold survey– planned for 2010 in Bali**
- **Work towards accreditation of national reference laboratory**
 - **University of Indonesia acquired sequencer in 2009**
 - **Keenly interested in developing capacity**



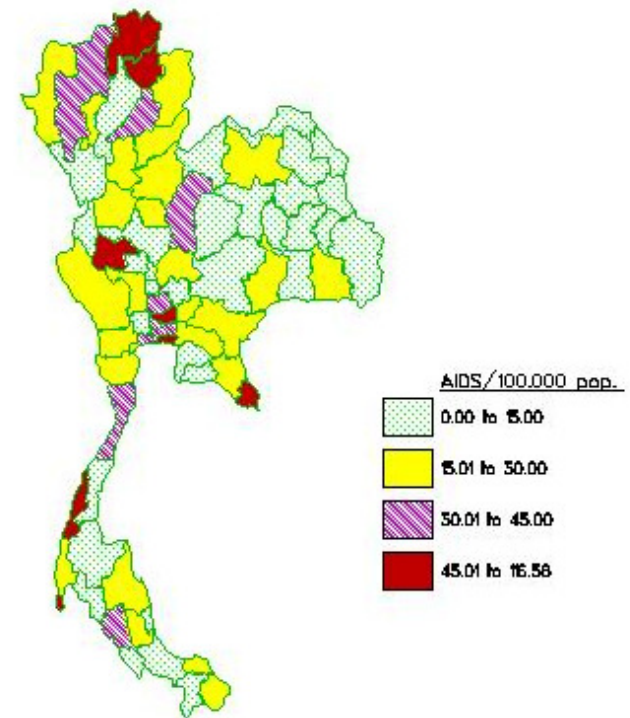
HIVDR Activities: Myanmar

- **HIVDR Working group just established in October 2009**
 - **Skeletal country workplan outlined**
- **Plan for EWI pilot in 5 sites (3 government sites, 2 NGO sites, including large MSF site) in 2010**
- **Country has applied for funds for HIVDR activities in GFATM Round 9 application**
 - **Focus for next 2-3 years primarily on EWI**
 - **Plan to initiate HIVDR prevention/monitoring survey in 2011-2012**



HIV DR assessment: Thailand

- **Three threshold surveys completed**
 - VCT clinic (2005)
 - Blood bank (2005)
 - Sentinel surveillance of CSW in multiple provinces (2007)
 - Additional surveys in planning phase
- **Monitoring surveys planned in three year cycles at representative sites**
 - Working group revising protocol



HIVDR activities: Thailand

- **Revised EWIs collection plan developed in 2009-09**
 - **Data downloaded from national computerized patient database**
 - **Representative of >700 hospitals**
 - **Analysis of all 6 EWI and two additional (Viral load, and AIDS defining illnesses)**
 - **Data validation, recommendations ongoing**
- **Two accredited HIVDR national reference laboratories since 2008/2009**
 - **National Institute of Health, Bangkok**
 - **Siriraj Hospital, Bangkok**



Additional planned activities

- **Establishment of national working group and workplan, with focus of EWI for *NEPAL***
 - **Strategy was introduced at regional workshop**
- **Introduction of some elements of EWIs (as a routine use of ART data) for lower HIV burden countries**
 - **ART data/cohort analysis workshop November 2009 (Bangladesh, Bhutan, Maldives, Sri Lanka, Timor Leste)**



Summary

- **Reasonably high level commitment to HIV DR prevention and assessment in high burden countries**
- **Countries recognize importance and potential use of EWI data**
 - **Need to integrate to other routine ART data analyses**
- **Developing appropriate recommendations from EWIs is challenging– and still a work in progress**



Issues and Challenges

- **Sustainability of survey implementation in rolling cycle**
 - Limited human resources and funding
 - Laboratory capacity
- **Long delays in clearance of protocols by national and institutional IRBs; lack of clarity at country level at times on need for special ethical clearance for transmitted resistance surveys (surveillance vs. special survey)**
- **EWIs highlight the need to strengthen overall M&E systems and records**
 - Including appropriate assessment of adherence



Additional issues raised by countries

- **Countries beginning to ask about extending monitoring surveys beyond 12 months**
 - Recognizing that even conducting at 12 month survey is a challenge
- **Re-assessing targets for EWIs**
 - Have been told by countries: “Targets are “lenient”; if LFU is 20% is that really an “early” indicator?”
- **Difficult to implement strategies for HIVDR prevention and assessment in the private sector**
 - Raised again and again as the “likely source” of HIVDR by national level stakeholders

