Bordering on Instability:

Public Health on Burma's Frontiers and Beyond

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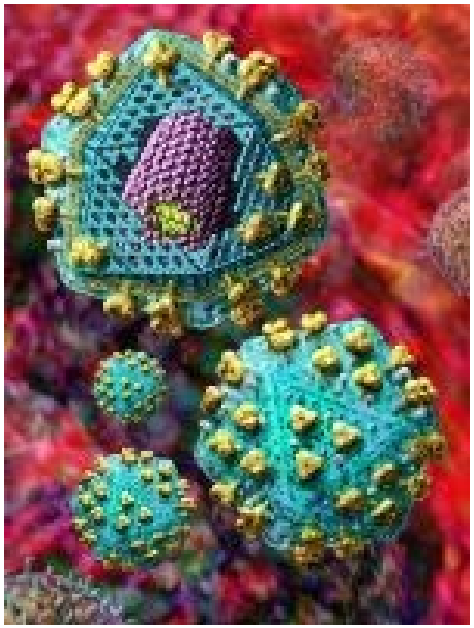
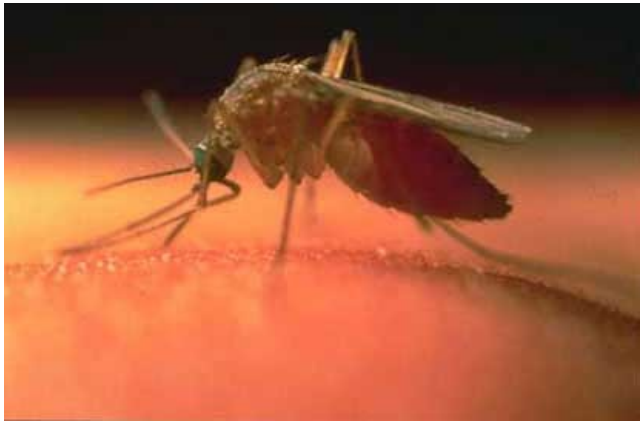
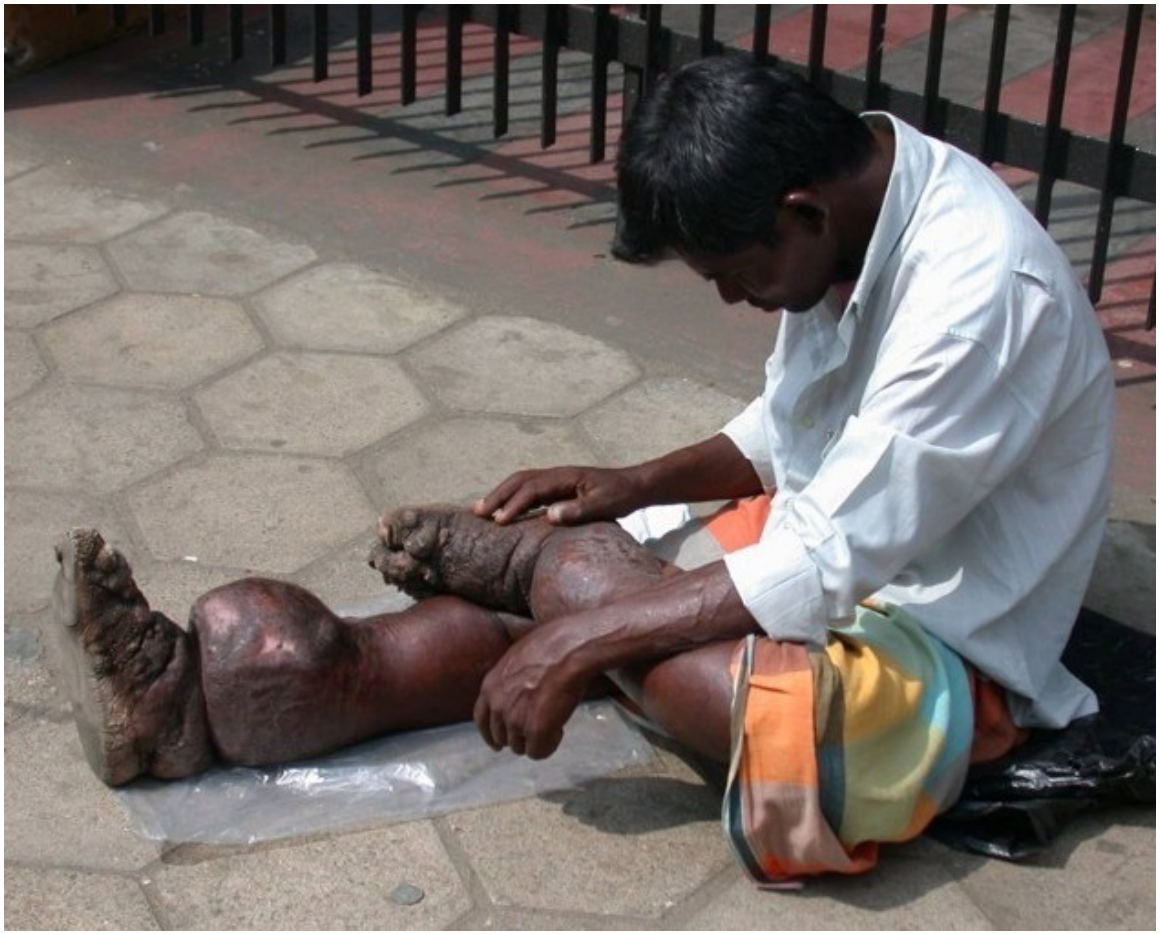
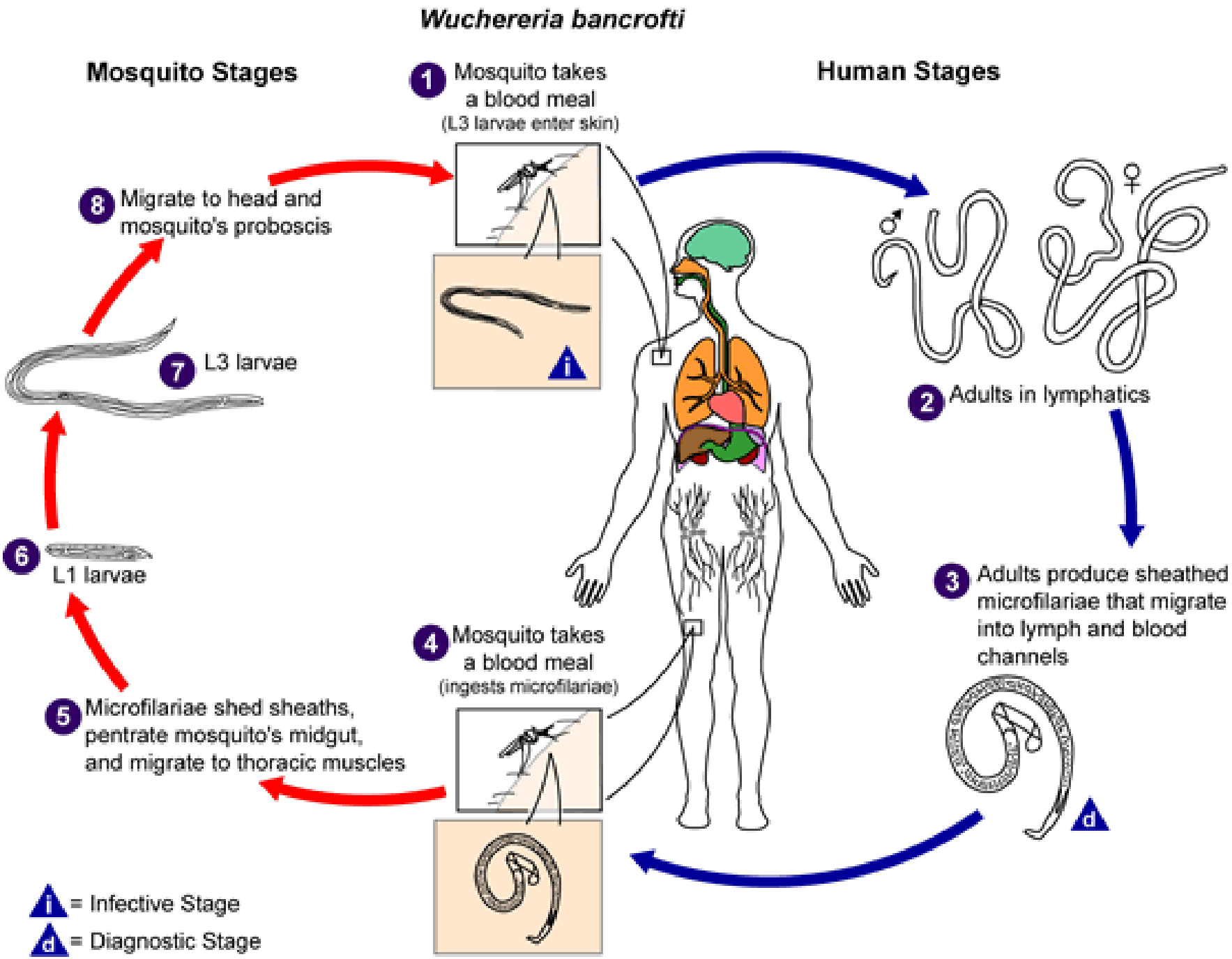




Lymphatic filariasis (elephantiasis)

- 40 M disfigured, disabled; 120 M worldwide infected
- Economic impact: ~20% less productive
- Most infected have NO symptoms

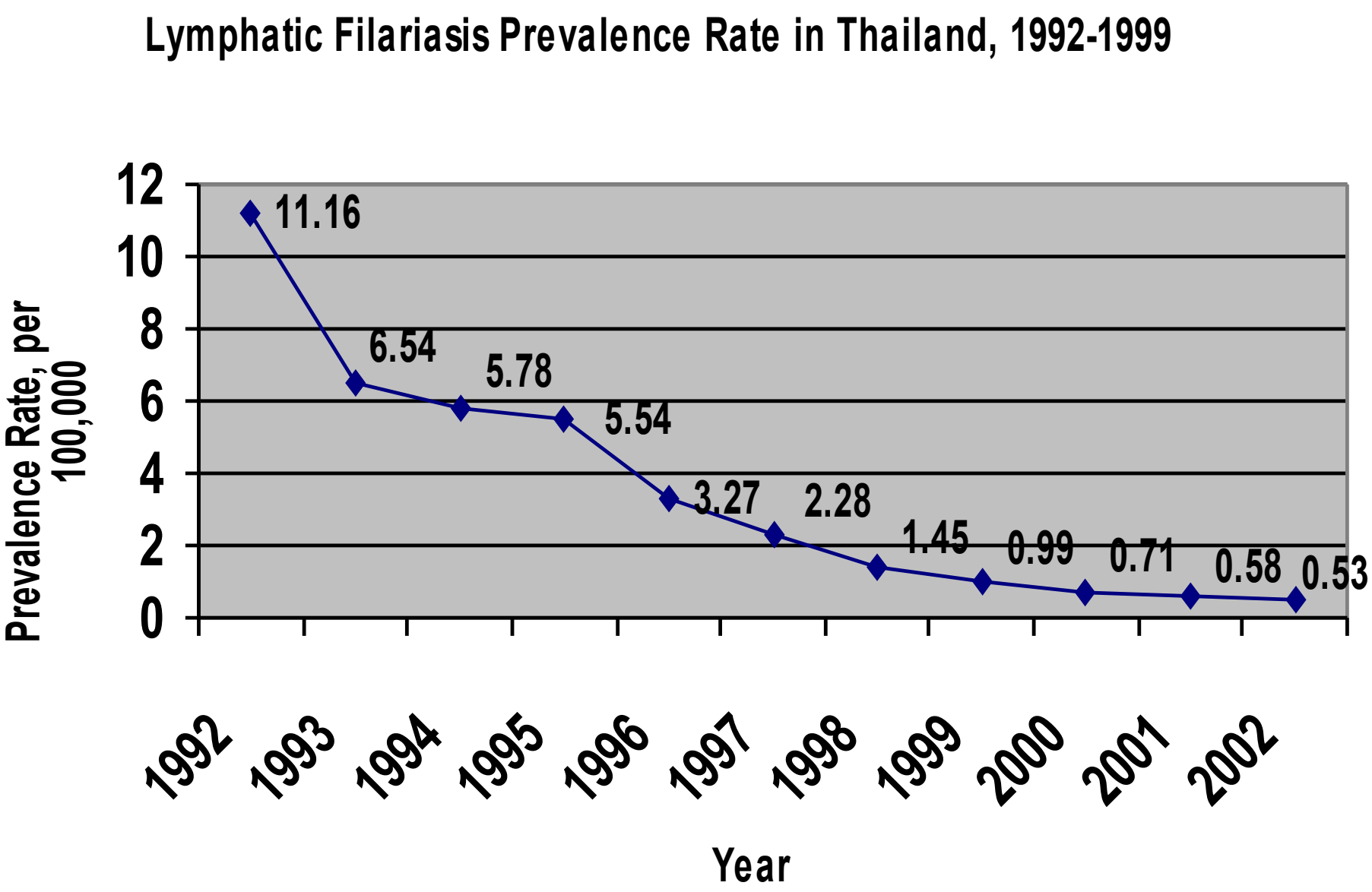



Wuchereria bancrofti
Mosquito Stages
Human Stages
1 Mosquito takes a blood meal
(L3 larvae enter skin)
2 Adults in lymphatics
3 Adults produce sheathed microfilariae that migrate into lymph and blood channels
4 Mosquito takes a blood meal
(ingests microfilariae)
5 Microfilariae shed sheaths, pentrate mosquito's midgut, and migrate to thoracic muscles
6 L1 larvae
7 L3 larvae
8 Migrate to head and mosquito's proboscis
i = Infective Stage
d = Diagnostic Stage

Prevention of filariasis

- <u>Mass treatment (MDA):</u> reduces transmission AND morbidity
  - Longterm: decrease infected people → inability to sustain transmission in community
  - WHO: once per year treatments 5 yrs or until treatment interrupted. (DEC +albendazole)
    - Goal: treat >80% of population at risk

Thailand & Filariasis

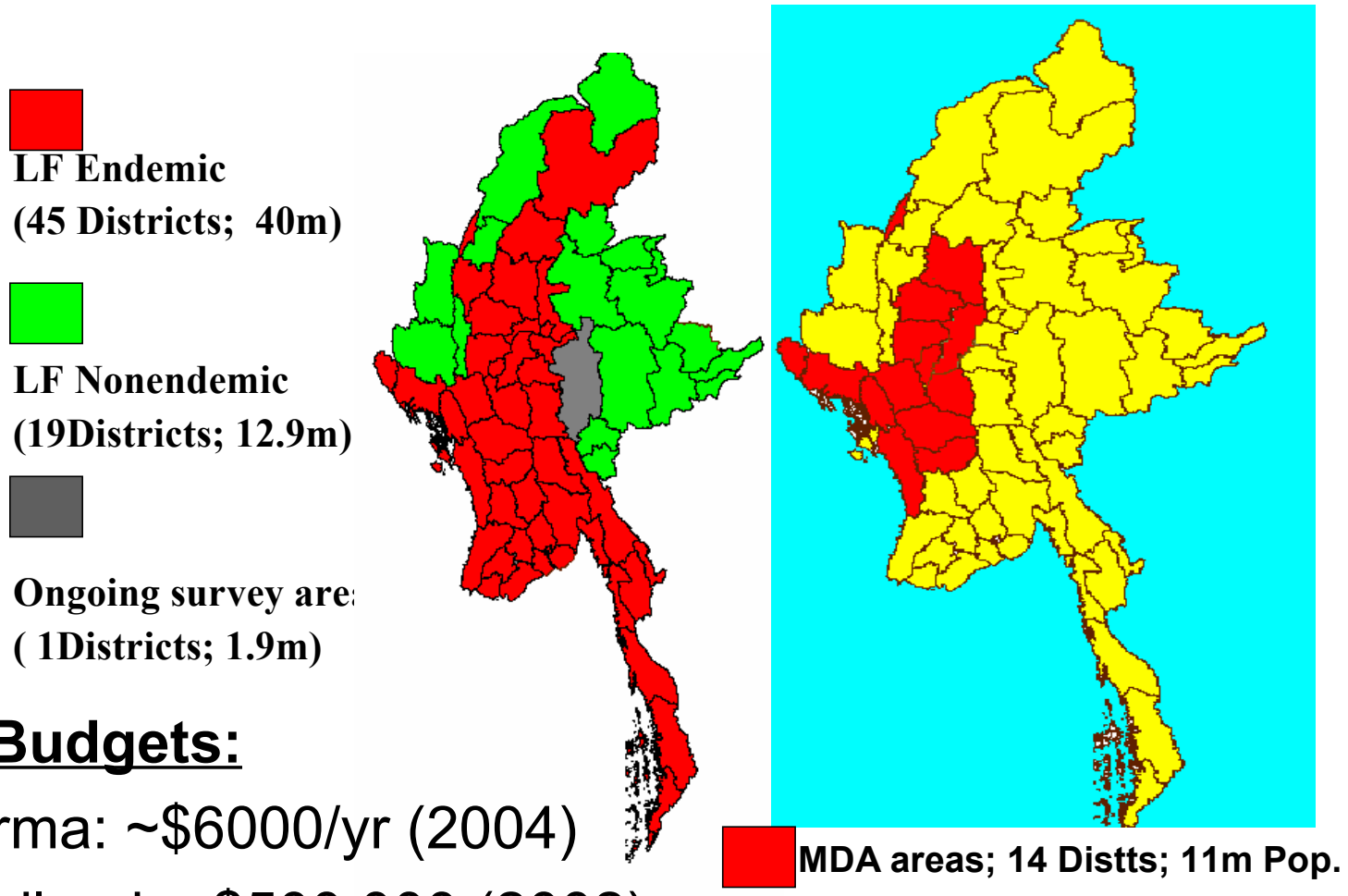


- From:
  Triteeraprapab et al. High Prevalence of *Wuchereria bancrofti* Infection Among Myanmar Migrants in Thailand. Ann Trop Med Parasitol 2001; 95: 535-538.

- Endemicity map, LF in Thailand:
  - Tak
  - Mae Hong Son
  - Kanchanaburi
- Almost all cases migrants from Burma

Epidemiology: filariasis in Burma, 2006

Filariasis Endemic Areas and Areas Under Mass Drug Administration, 2006

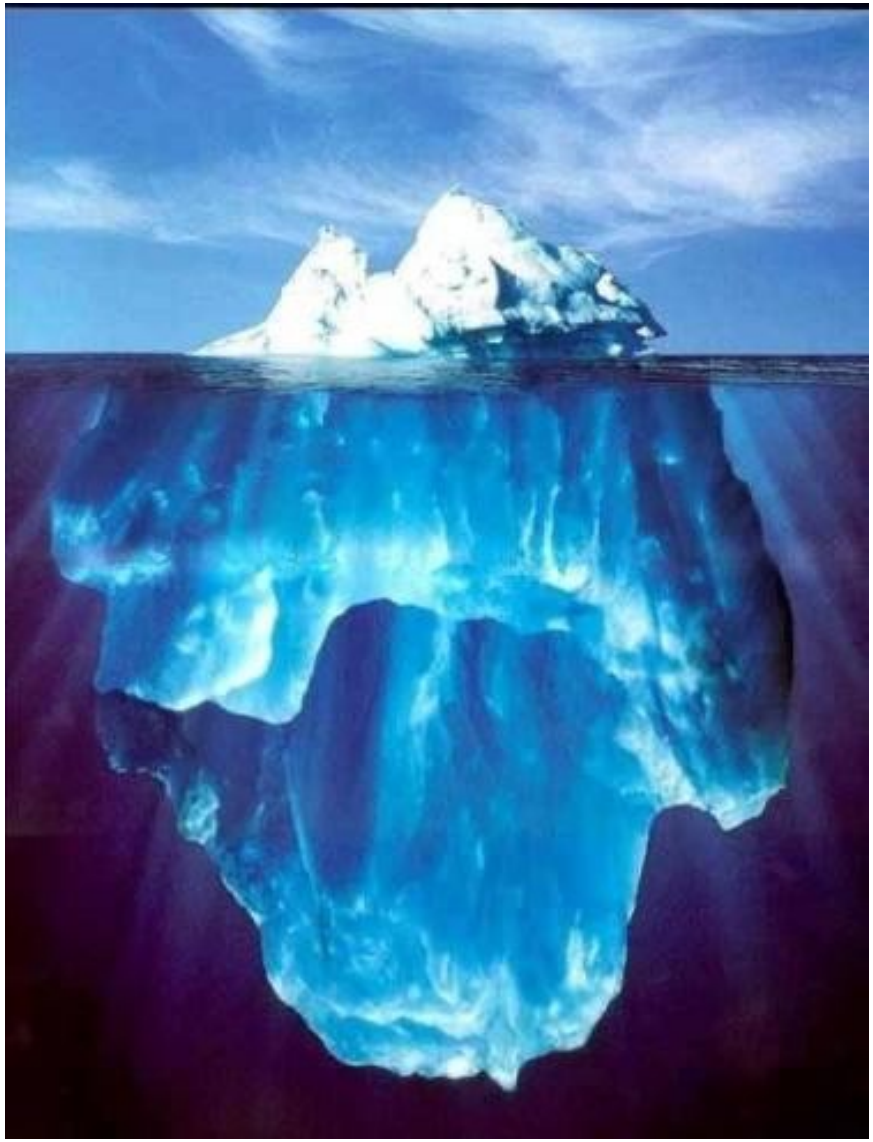


Budgets:

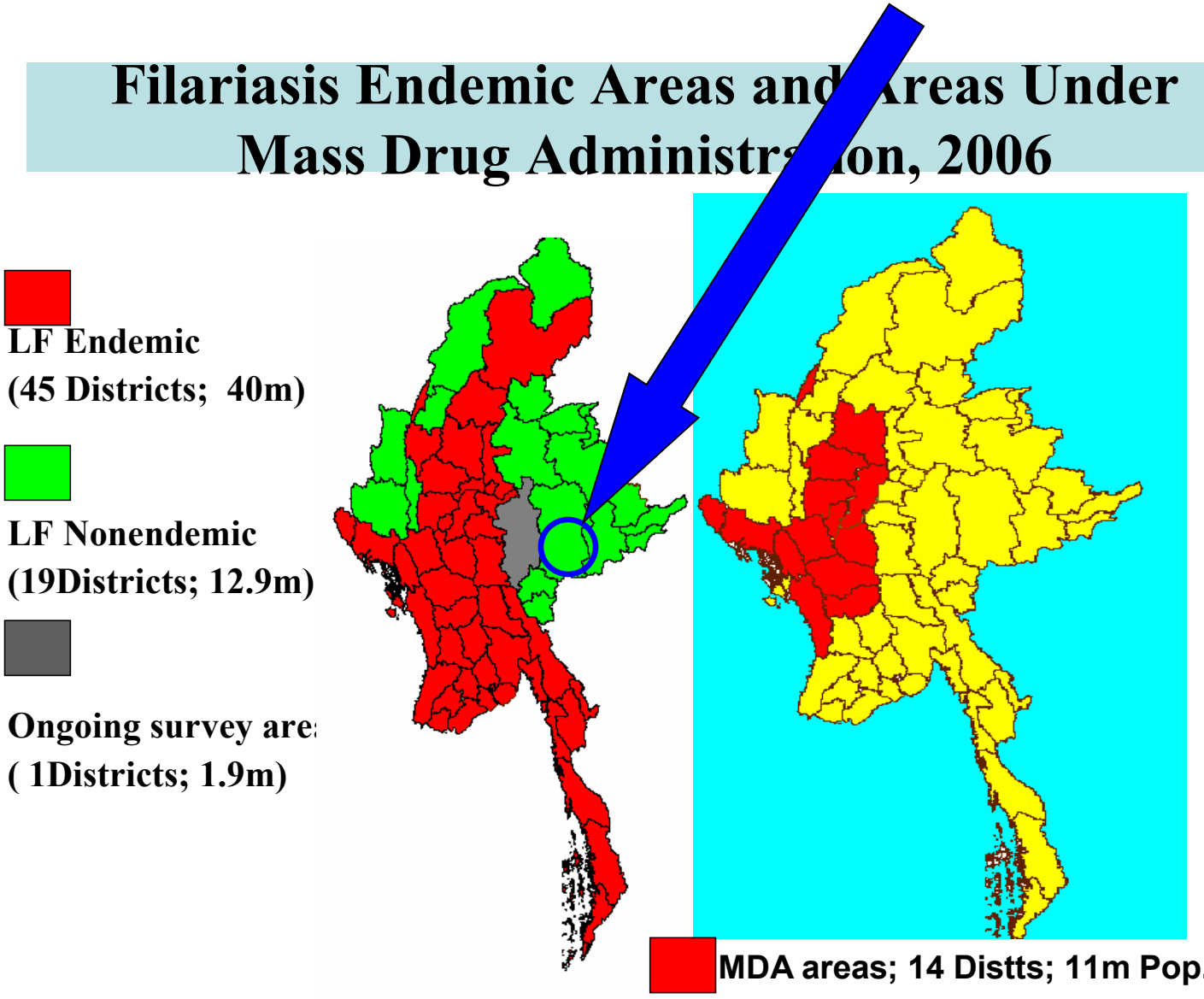
- Burma: ~$6000/yr (2004)
- Thailand: ~$500,000 (2002)

Thailand, migration, filariasis

- 2004: Two patients *with symptoms* found in Chiang Mai city in 2004, first in decades
- Both in Shan migrant workers



Two patients from Mongnai…



Source: Beyrer C, Villar JC, Suwanvanichkij V, Singh S, Baral SD, Mills EJ. Neglected Diseases, Civil Conflict, and the Right to Health. *Lancet* 2007; 370: 619-627.

1. Burma's Health is in Crisis

	Burma	Thailand	Indonesia
IMR	75	18	28
U5MR	105	21	36
% routine vaccines financed by government	0 (90% provided for by UNICEF)	100	100

Source: UNICEF. All figures are for 2005.

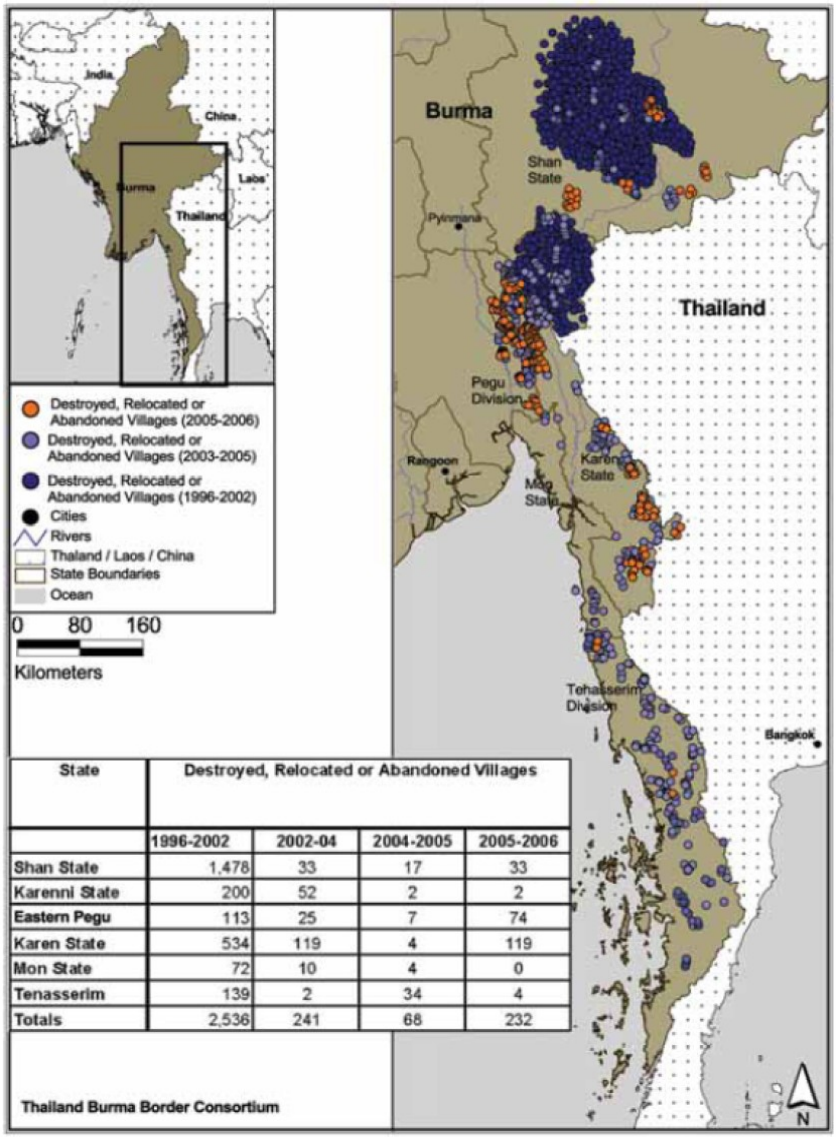
	Burma	Thailand	Indonesia
Gov't expenditure on health per capita	$0.40	$61	$12
Private expenditure on health, %THE	89.4	36.1	65.3

Source: WHO. All figures from 2005. http://www.who.int/nha/country/en/

2000: Burmese health system ranked 190 of 191 WHO member countries (between Central African Republic & Sierra Leone).

[WHO, World Health Report 2000]

21. The Burma health crisis



State	Destroyed, Relocated or Abandoned Villages			
	1996-2002	2002-04	2004-2005	2005-2006
Shan State	1,478	33	17	33
Karenni State	200	52	2	2
Eastern Pegu	113	25	7	74
Karen State	534	119	4	119
Mon State	72	10	4	0
Tenasserim	139	2	34	4
Totals	2,536	241	68	232

- Essentially no government support for health
  - aid blocked, limited; cross-border
- Conflict areas: health providers also targeted
  - Ceasefire: central gov't not in control
  - Porous: "to everything except public health"

Basic Health Indicators, 2004

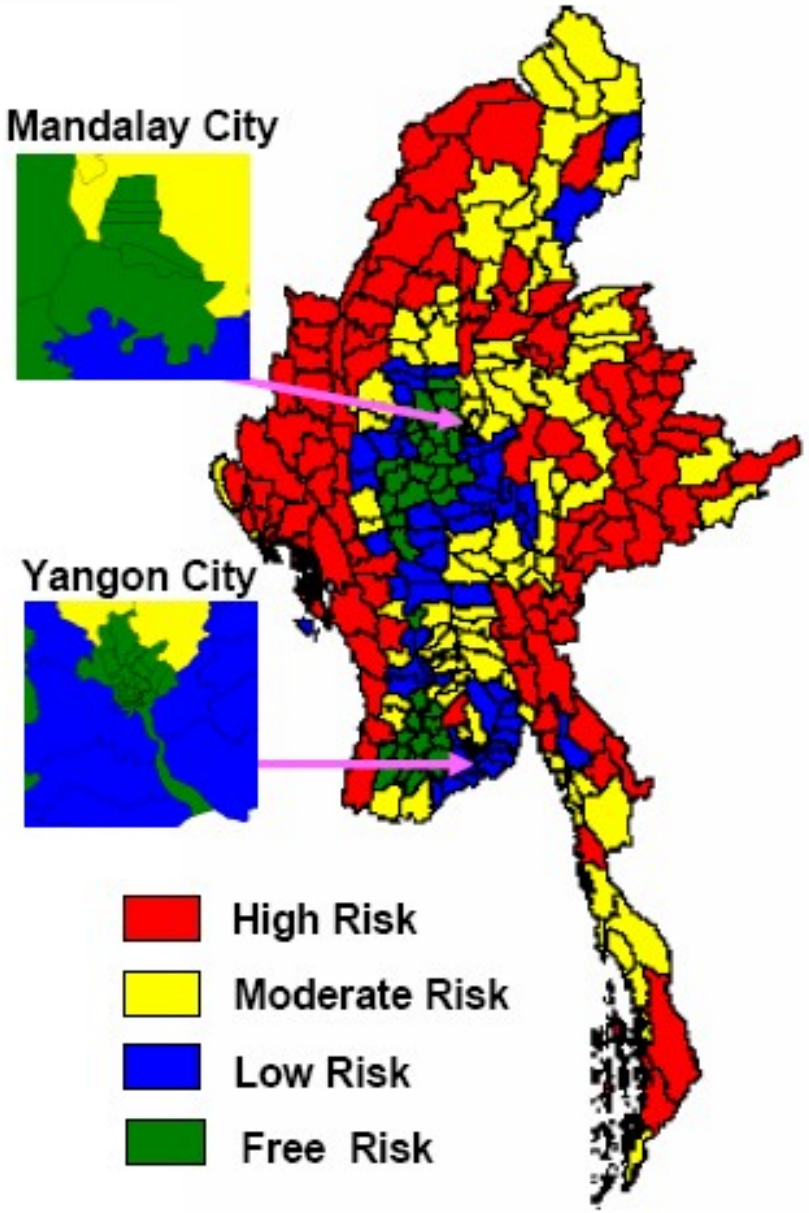
Source: Backpack Health Worker Team, *Chronic Emergency*, September 2006.

	IMR (per 1000 live births)	U5MR (per 1000 live births)
Eastern Burma conflict zones		
Burma national rates (UNICEF)	76	106
Thailand (UNICEF)	18	21
Indonesia (2005; UNICEF)	28	36

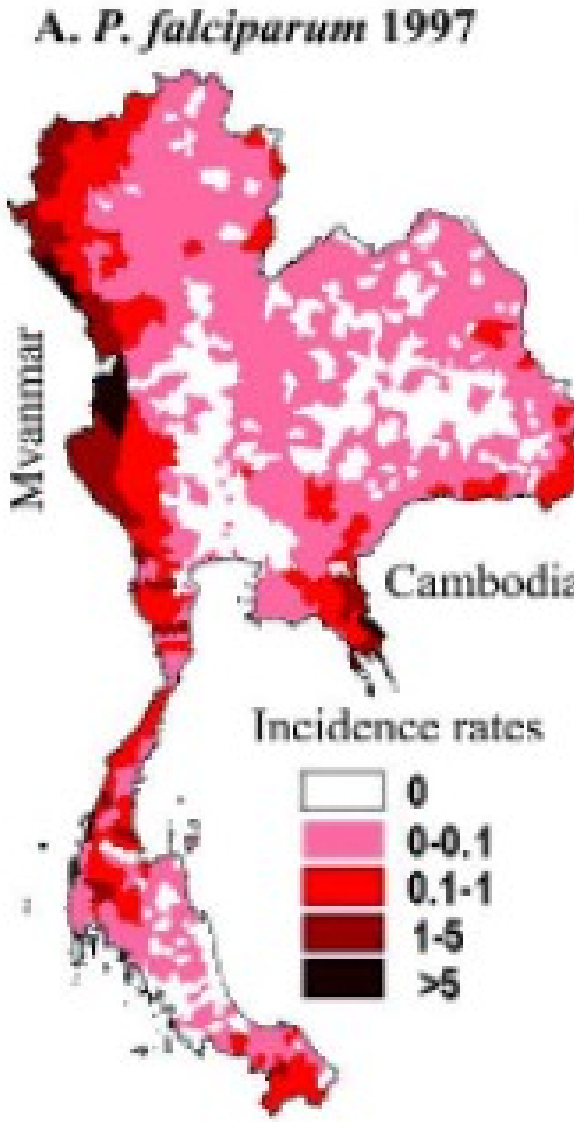
Causes of Death

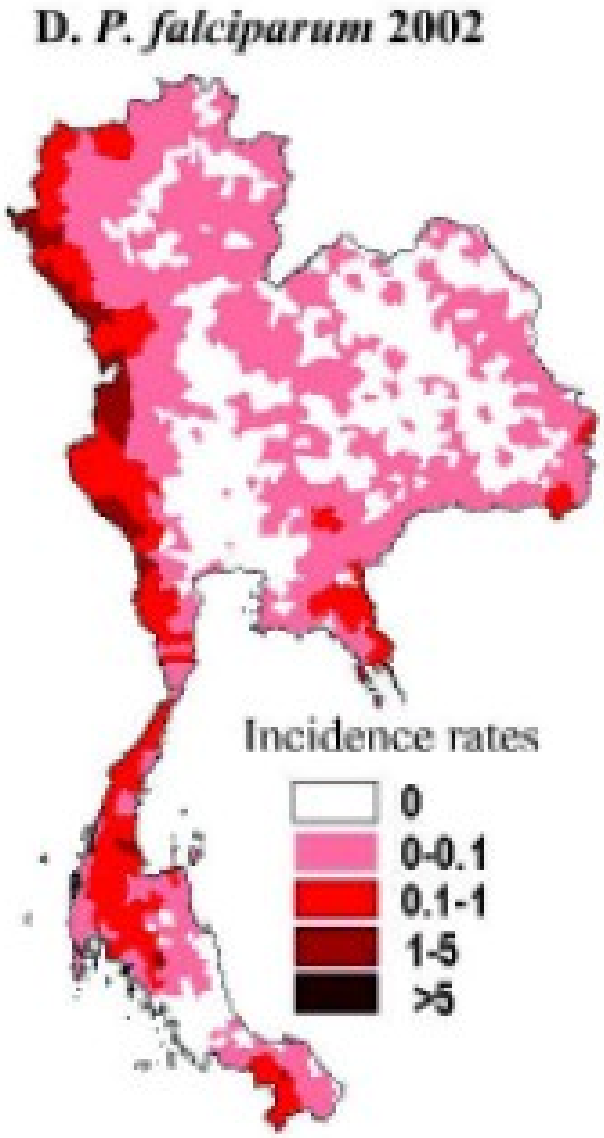
	Children under 5		Total Surveyed Population	
Cause of Death	**Deaths**	**Percent of total**	**Deaths**	**Percent of total**
Diarrhoea	16	22%	36	22%
Malaria	34	47%	67	42%
ARI	8	11%	20	12%
Landmine	0	0%	1	1%
Gunshot	0	0%	2	1%
Pregnancy	0	0%	1	1%
Other	15	20%	34	21%
TOTAL	**73**	**100%**	**161**	**100%**

Malaria Risk Areas in Myanmar



- Especially along frontiers: esp. Chin, Karenni, Kachin States
- BPHWT: #1 cause of death, 12% IDPs with Pf
- >70% of population live in moderate-high risk areas





Gains in malaria control in Thailand, 1997-2002. Trend not seen on the border with Burma.

92% reported malaria cases in Thailand occur in Burmese migrants

Source: Zhou G et al., Spatio-Temporal Distribution of Plasmodium falciparum and P vivax Malaria in Thailand. *Am J Trop Med Hyg* 2005; 72: 256-62.

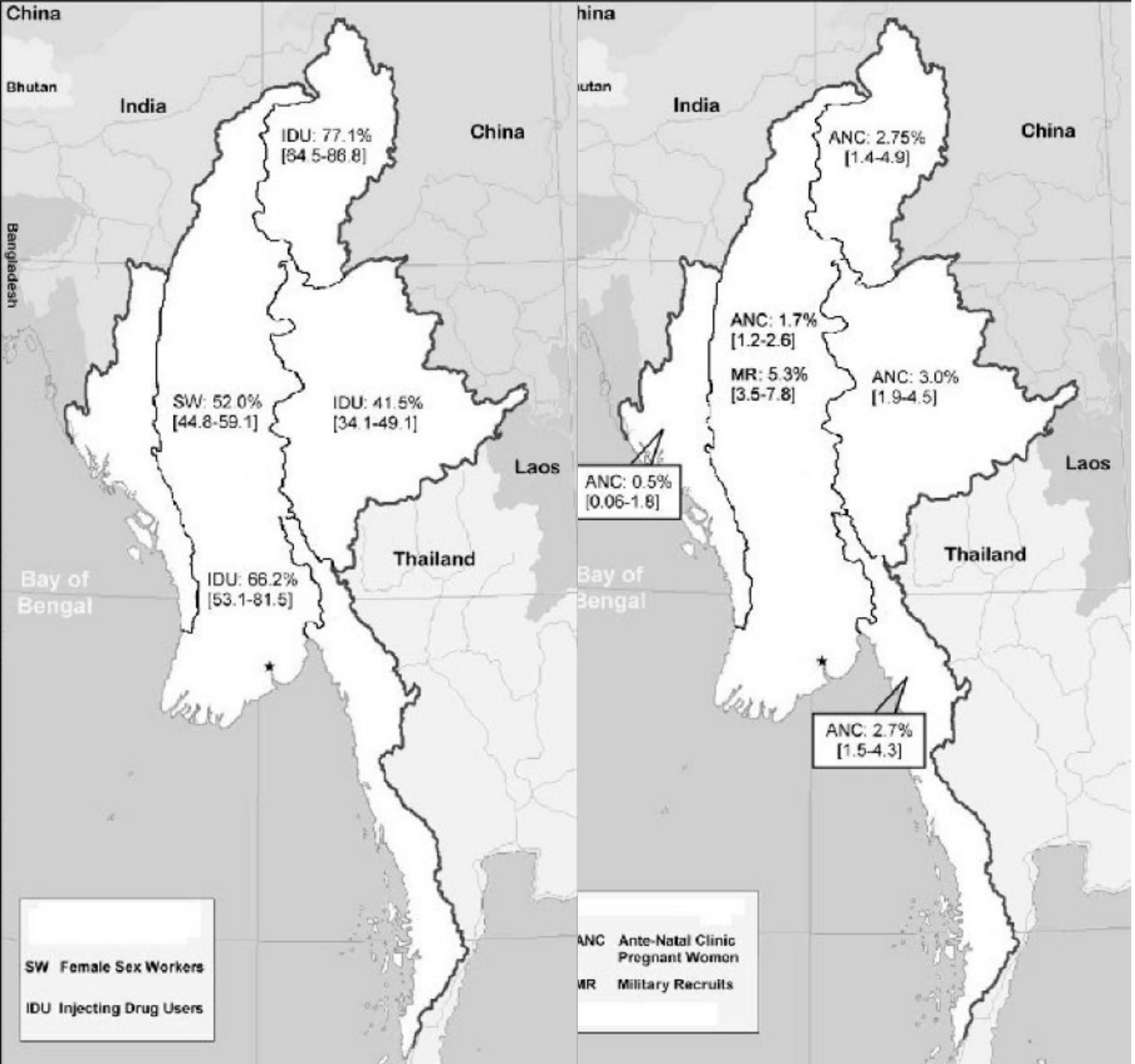
HIV in Burma

- "one of the most serious HIV epidemics in south-east Asia" (UNAIDS, 2007)
- 1.3% adults (0.7-2.0%) with HIV in Burma
  - Concentrated or generalized epidemic?
  - 360,000 [200-570,000]
- Gov't expenditure on HIV: $137,000 in 2005 (< $0.005 per capita)
  - Thailand: $1.43, Cambodia: $0.07

(UNAIDS, April 2007)

HIV Sentinel surveillance, March-April 2003

	% infected: median	% infected: minimum	% infected: maximum
High Risk: **IDU**	48.10	23.00	77.78
Low Risk: **ANC**	1.00	0.00	7.50



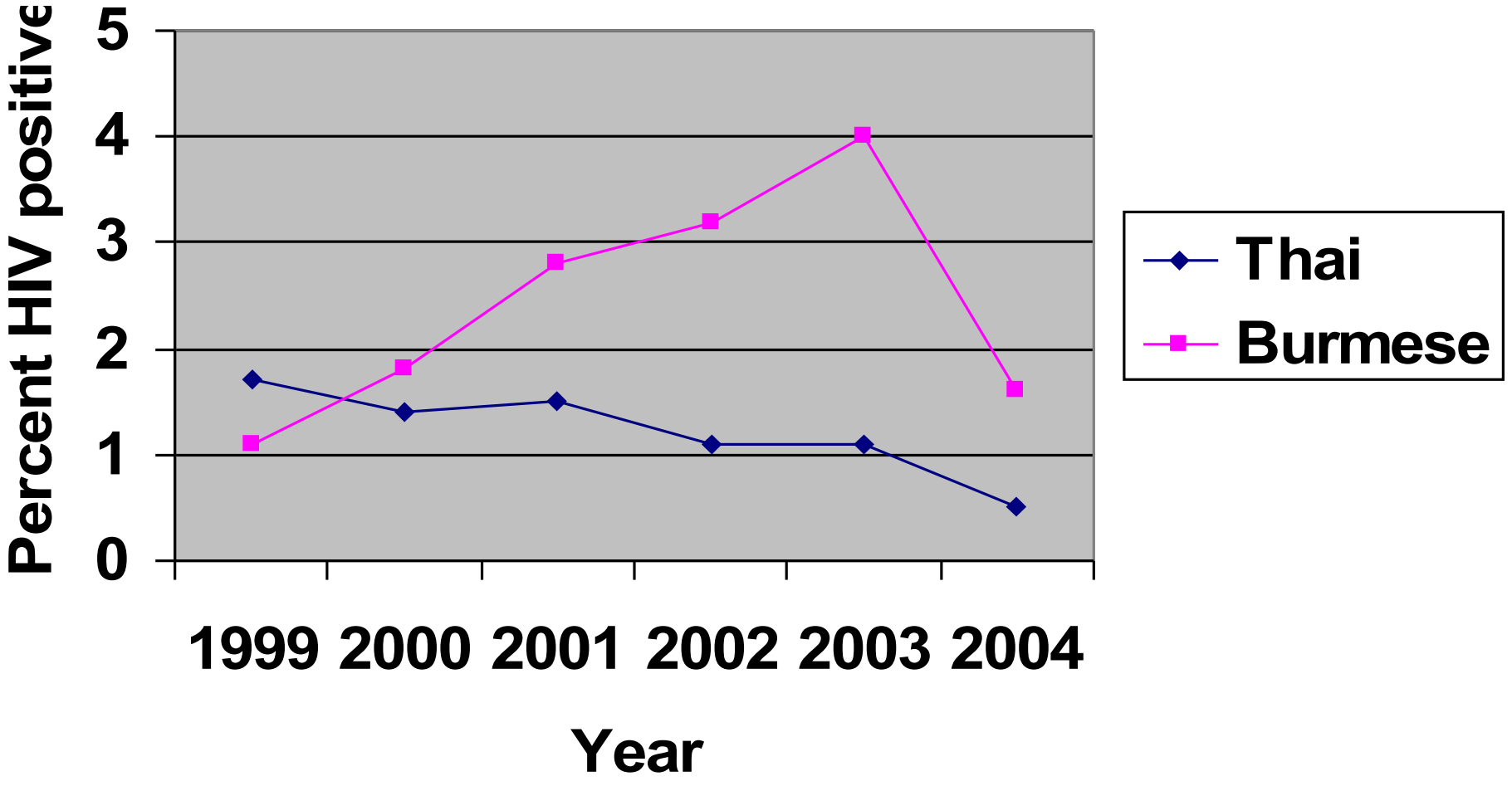
1999

From: Beyrer C, Razak MH, Labrique A, Brookmeyer R. Assessing the Magnitude of the HIV/AIDS Epidemic in Burma. JAIDS 2003; 32: 311-317.

3. Burma's health burden is not borne by Burmese alone
2. The frontiers are even worse

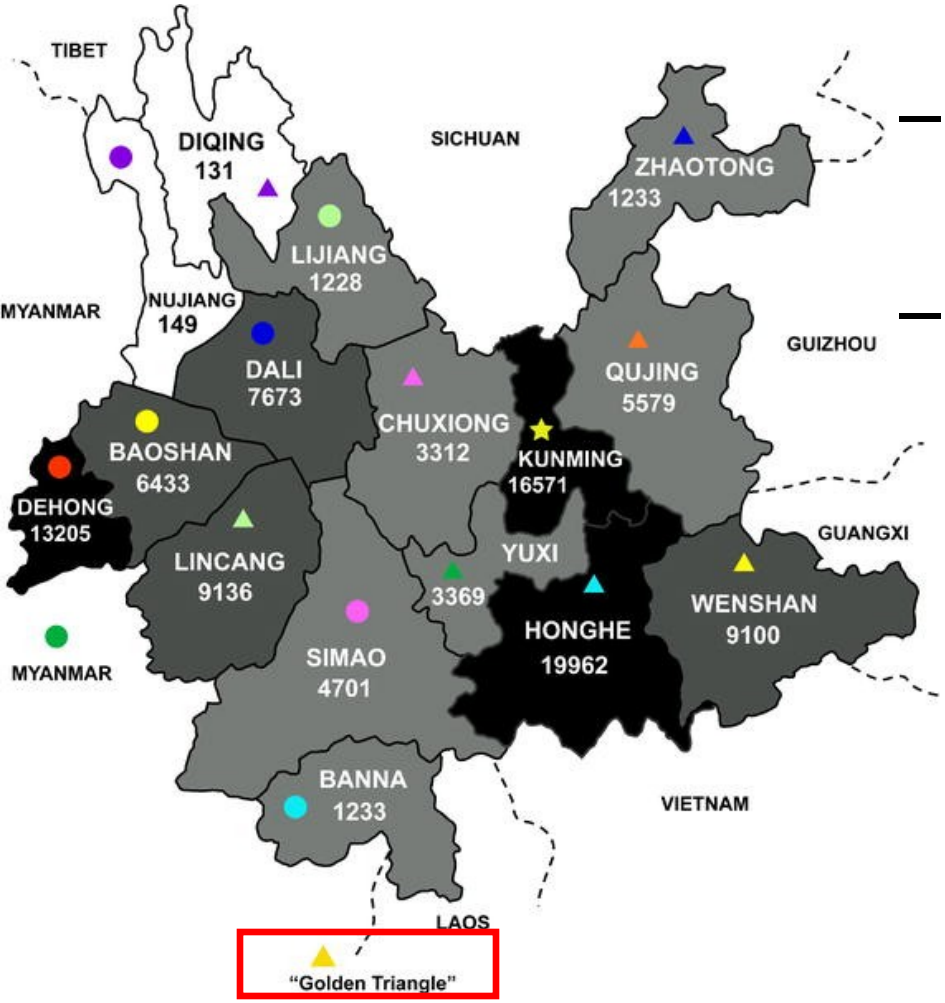
- Thailand: 1-2 million (?) migrants from Burma (mostly undocumented)
  - migrant factory workers: 15% seen condom, 1.4% ever used
  - Burmese CSWs
    - 10% in Mae Sot ~HIV+
    - 1/4 to 1/3 in Ranong HIV+
  - Shan CSW data; less prevention knowledge
  - 1999: Shan construction workers: 4.9% HIV+, double N Thais

ANC HIV Prevalence Rates, Tak, Thailand



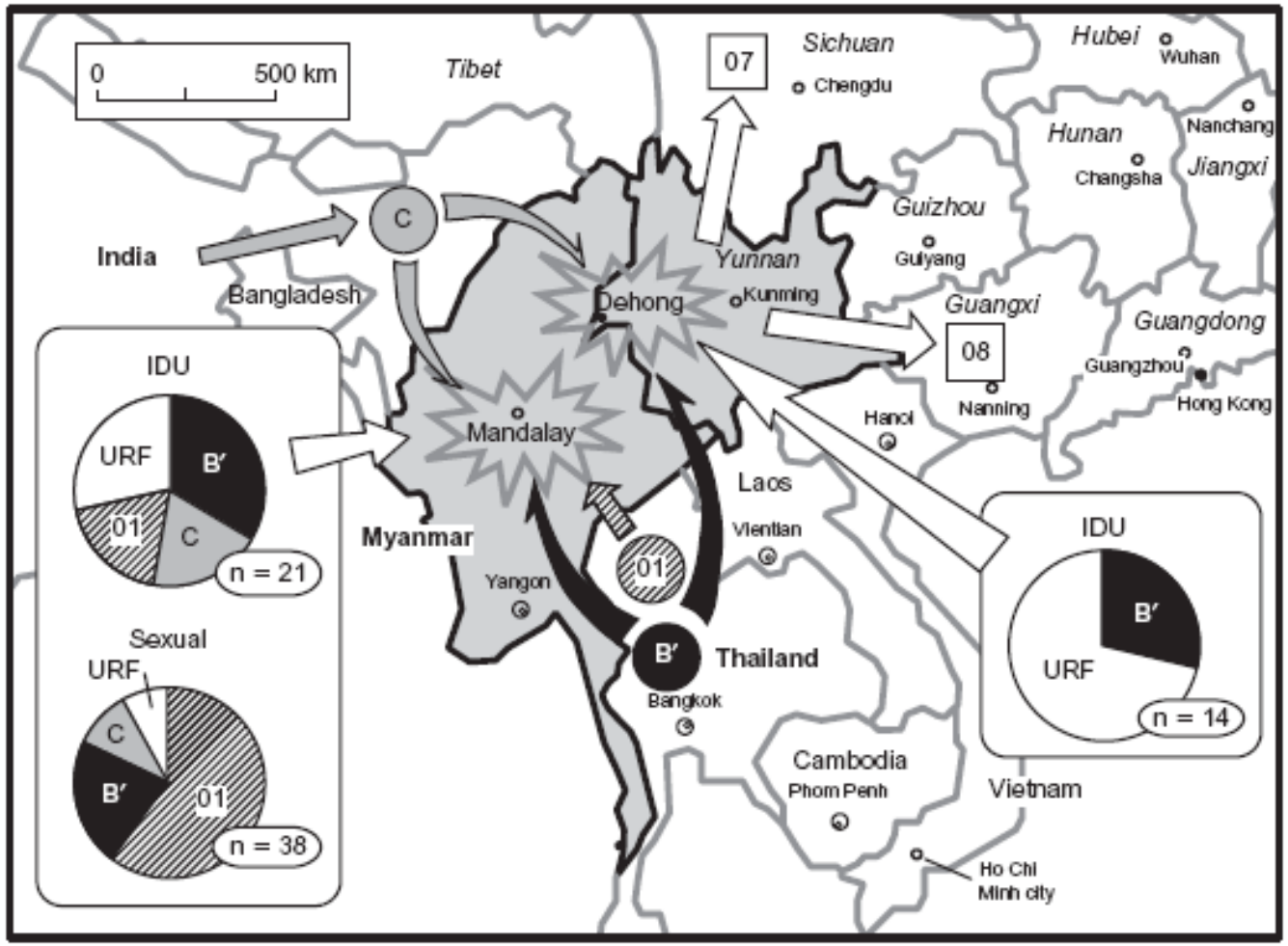
Sawasdiwuthipong et al., Experiences Controlling Infectious Diseases in Burmese migrants, Amphur Mae Sot, Tak Province, 2004. Journal of Health Science 2006; 15(2): 243-250.

Yunnan



Distribution of reported cases of HIV, 2004

- Entry point of drugs into China
- Epicenter of 1989 IDU outbreak: Ruili, Dehong P.
- Now throughout Yunnan; most severely affected province: 30% HIV in China
  - Driven by IDU: >20% IDUs in Yunnan HIV+
  - Ruili: >70% IDUs HIV+ (Yunnan Institute for Drug Abuse)
- Generalized (>1% ANC)



Takebe et al., High Prevalence of Diverse Forms of HIV-1 Intersubtype recombinants in Central Myanmar: A Geographical Hot Spot of Extensive Recombination. *AIDS* 2003

Yunnan & Upper Burma HIV outbreaks linked, "*are the 'melting pots*'"

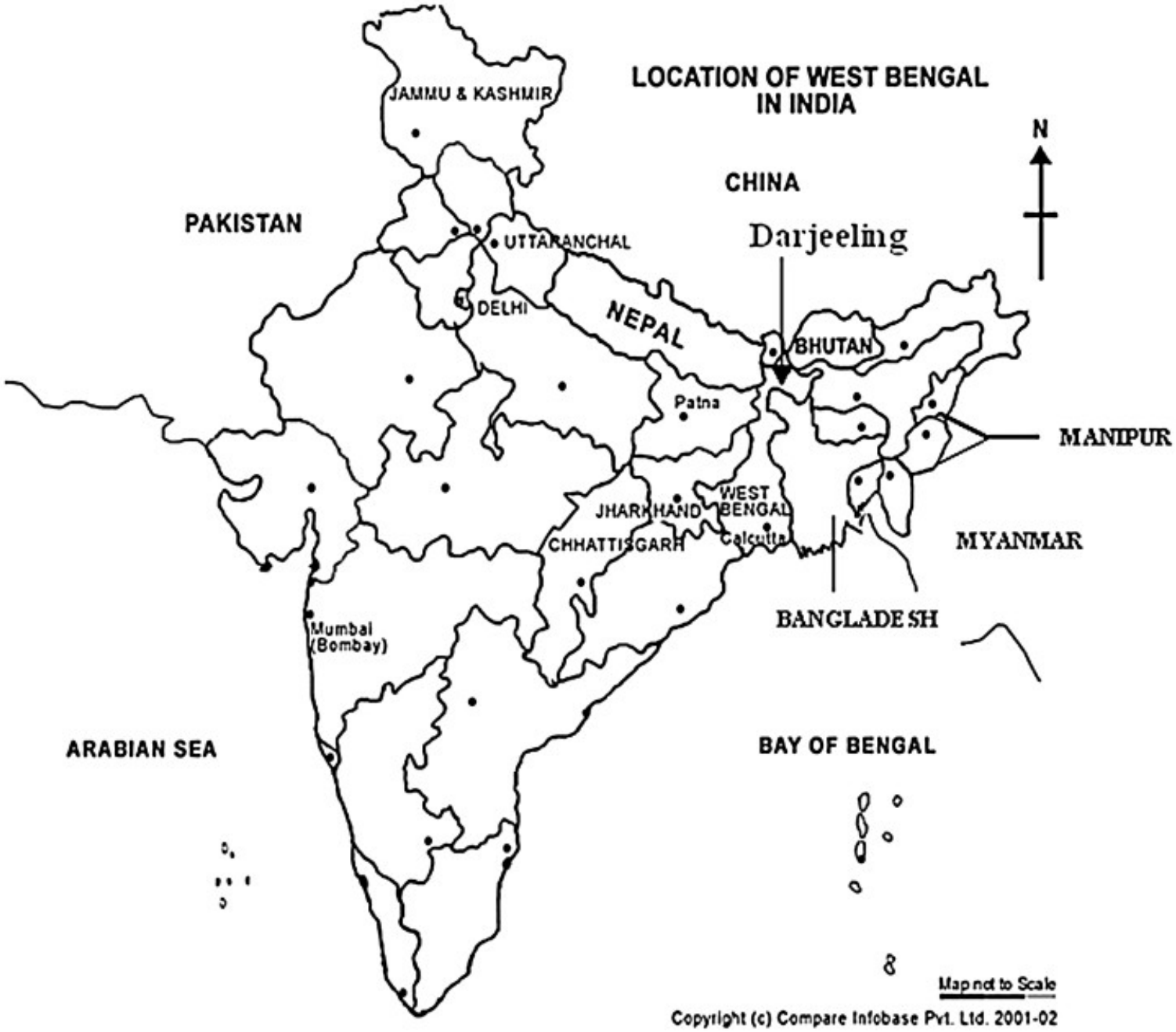


FIG. 1. Map showing the geographic location of Darjeeling district in West Bengal, India, Manipur, a northeastern state in India, and Nepal, a neighboring country of India.

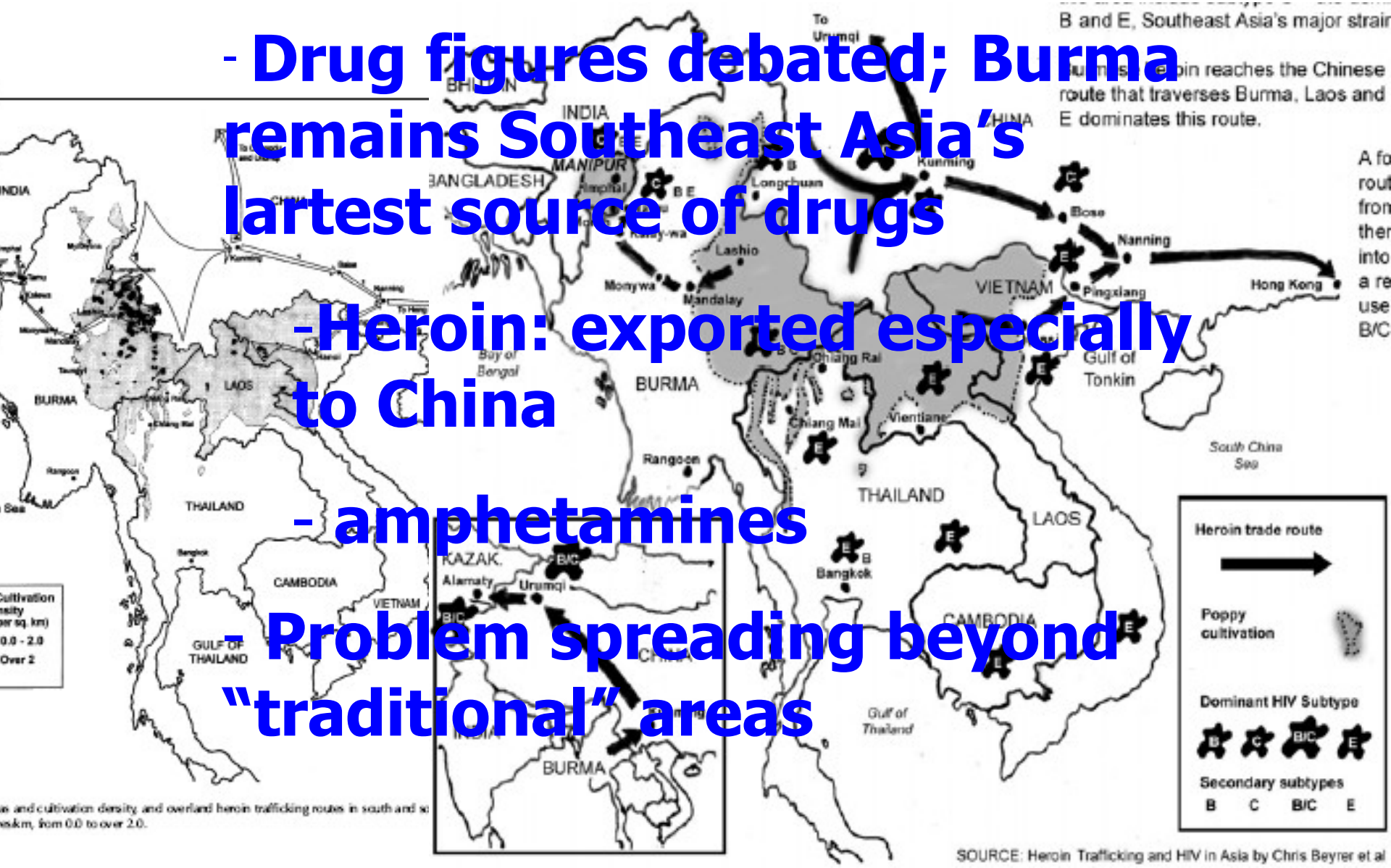
Trafficking, drugs, & HIV

- **Drug figures debated; Burma remains Southeast Asia's lartest source of drugs**

-Heroin: exported especially to China

- amphetamines

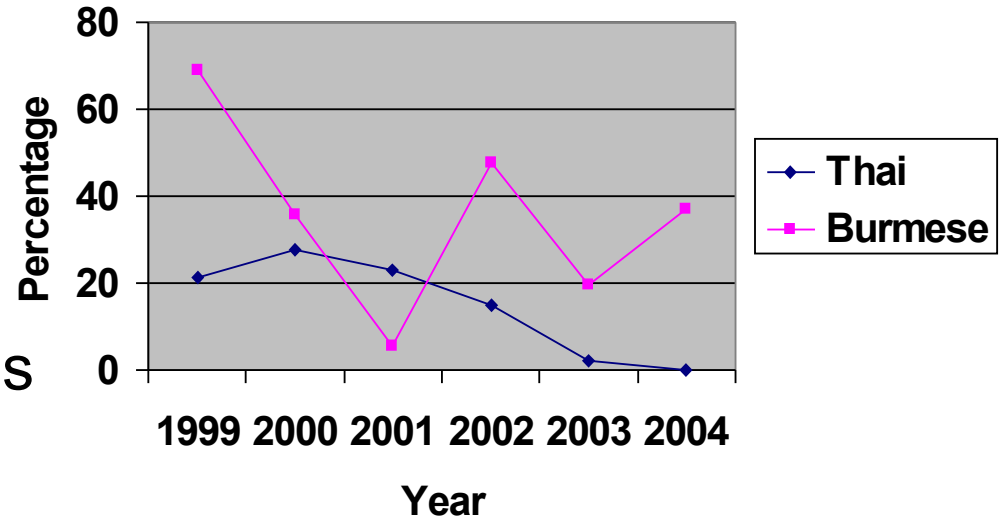
- **Problem spreading beyond "traditional" areas**



Tuberculosis

- Burma High Burden
- #1 dx, Burmese migrants (Thailand)
  - Overwhelming district programs
- MDR: little data; ~5% on border vs general Thai rate of 0.9%
- 2006: 2 Burmese migrants with XDR TB
  - No care in Burma
  - Previous meds, tx failures
  - Both default, lost

TB Treatment Default Rates

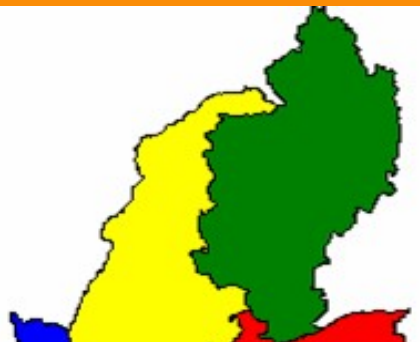


Vaccine-preventable diseases

	Burma	Indonesia	Thailand
% routine vaccines financed by gov't	0 (90% provided by UNICEF)	100	100

OPV3 Coverage, 2006

Polio, 2007

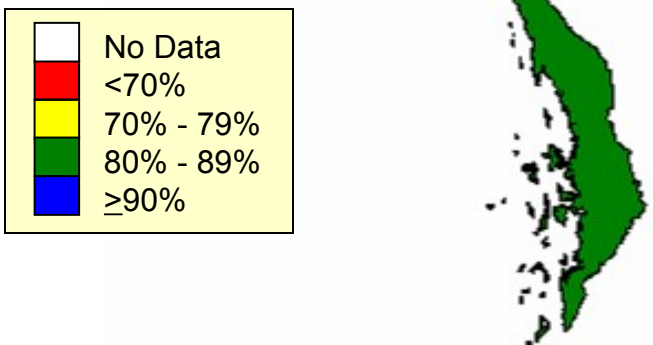


National OPV3 Coverage 2006 = 61%

Re-emergence in Burma, coupled with ongoing migration identified as high risk for polio resurgence in Thailand

"Disease reporting in Burma was unreliable"

- *The Nation*, December 22, 2007, quoting WHO communicable disease control official



Source: WHO, Regional Office for South-East Asia, 2007

4.5 Burma's health care system, problems and challenges

Ministry of National Planning and Economic Development

FEBRUARY 2006

Guidelines for
UN Agencies, International Organizations and
NGO / INGOs
on Cooperation Programme
in Myanmar

Tighter regulations governing INGOs, January 2008, Naypyidaw

- “No permission from Ka-Ka-Kyi [Ministry of Defense], no travel.”
  - No travel permits: short-term consultants, trainers from abroad
- All expat travel accompanied by liaison officers (LO), including same flight, hotel
  - Costs to be borne by aid agency
- Minimize data collection, assessment; “should be confined to ‘Health Issues’”
- Focus on “pure health activities” to get MoUs from government
  - “If a person is liked, then the rules are reduced… so try to be liked first!”

Parade Ground in Nay Pyi Taw being illuminated on 27 March 2007.—MNA

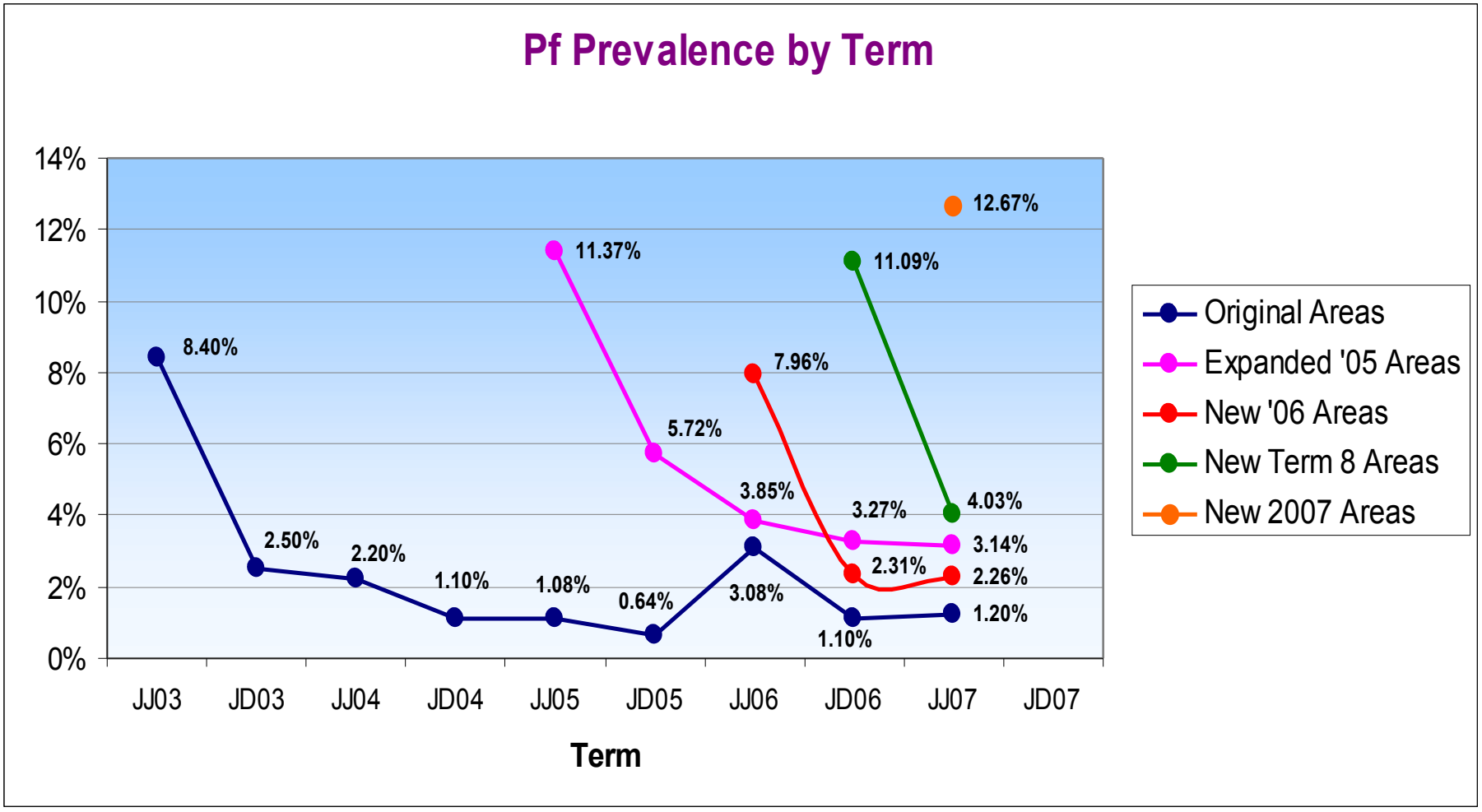
Three statues at Nay Pyi Taw Parade Ground seen with multi-coloured lights. — MNA

Naypyidaw Relocation: $122-244 million/year (IMF)

"How much it cost is not that important… What is important is not to have a budget deficit."

BG Kyaw Hsan (April 2007)

Total Global Fund grants for AIDS, TB, and Malaria (Burma): $11,929,652



Source: Karen Dept of Health and Welfare, Malaria Control Program

- Failures: implications on (re) emerging infectious diseases: avian influenza (bird flu), SARS, XDR TB
- http://www.jhsph.edu/humanrights/
  - News & events